STDM USER MANUAL

July 2015

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Preface

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1. Introduction

1.1. About STDM

The Social Tenure Domain Model (STDM)is a pro-poor, gender responsive and participatory land information system developed by the Global Land Tool Network (GLTN). It is one of eighteen land tools being developed, tested and applied by GLTN partners to promote secure land and property rights for all.

STDM, as it stands, has the capacity to broaden the scope of land administration by providing a land information management framework that would integrate formal, informal and customary land systems and administrative and spatial components. STDM makes this possible through tools that facilitates recording of all forms of land rights, all types of rights holders and all kinds of land and property objects/spatial units regardless of the level of formality.

1.1.1. Core Values

STDM's core values and principles are pro-poor, good governance, equity, subsidiarity, sustainability, affordability, systematic large scale, and gender responsiveness.

1.1.2. The STDM Universe

STDM is a pro-poor, participatory and affordable land tool that broadens the scope of land administration by incorporating all person/s to land relationships beyond formal/legal land rights, cognisant of the continuum of land rights. STDM has four inter-related components:

1. A new way of thinking about land records
2. A free and open-source software package to record information about land
3. An approach of collecting data about land
4. A way of using and disseminating information about land

The STDM Universe consists of an extensible data model, conceptual and operational model, database implementation, software modules and an extensible architecture.

1.2. Changelog for STDM Version 1.1 (July 2015)

The emphasis of this release has been very much on stabilizing the platform and improving the feature set – we have added many new features, tweaked and enhanced the user experience making STDM easier to use than ever before. Data management and document generation tools have had a lot of work done to simplify: the design of tables, data access and creation of rich cartographic outputs.

Whenever new features are added to software, they introduce the possibility of new bugs – if you encounter any problem with this release, please report it on STDM's issue tracker so that the developers can check and fix it.

To get technical support, please use the online resources listed the getting technical support to get in touch with the pool of STDM users and developers:

From GLTN, we do hope that you will enjoy this release and are looking forward to getting your feedback including feature enhancements to consider for the next major release.

1.2.1. Installation

Enhanced Custom Build for Windows

- The latest build of the STDM installer includes the latest versions of the dependent software components i.e. PostgreSQL 9.4, PostGIS 2.1.7 and QGIS 2.8.2. In addition, the installer is now available in 32 and 64 bit versions depending on the architecture of the target PC.
- There is also the option of installing sample data, which can subsequently be used to guide users through the software using examples contained in the user guide. The sample data includes SQL scripts for inserting sample data into the STDM database as well as shapefiles, CSV files and satellite image which are copied into the local user directory. Read more...

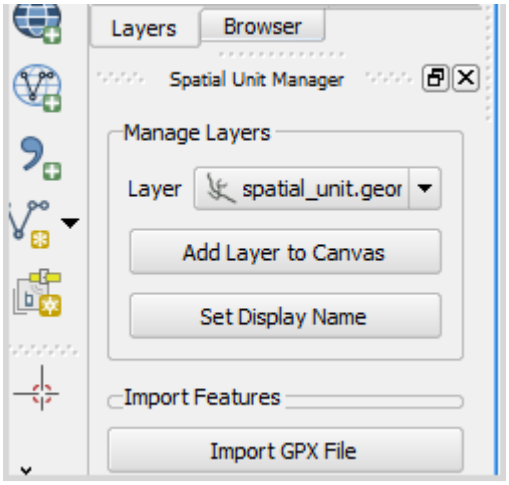
Installing through GLTN Plugin Repository

- For users with an already existing installation of QGIS, they can now download the STDM plugin by connecting QGIS' plugin manager to the GLTN Plugin repository available through this link: http://stdm.gltn.net/plugin/plugins.xml. Read more...

1.2.2. Management of Spatial Units

Introduction of Spatial Unit Manager

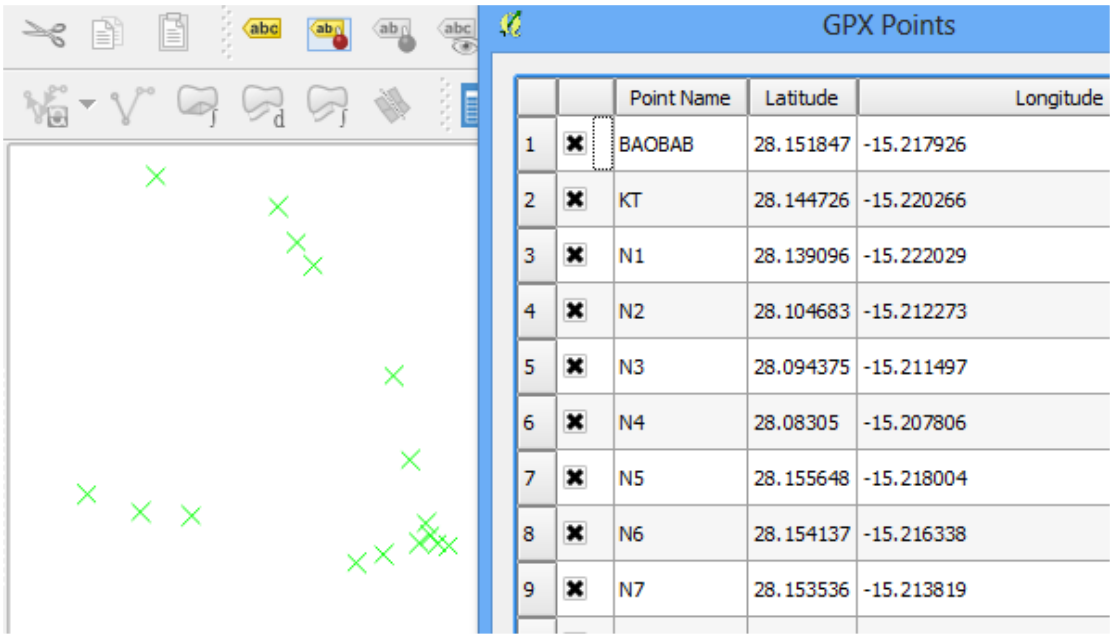
- Spatial units can now be accessed through a dockable 'Spatial Unit Manager' window. The window provides an option for listing all spatial units in the STDM database and adding them to the map canvas for visualization. The user can also set a display-friendly name for the layer which is applied in the legend each time the layer is loaded.



Importing Spatial Units from GPX Files

- Geometry data for spatial units collected from the field and downloaded from GPS devices in GPX format can now be easily imported into the STDM database by loading a GPX file into the map canvas then selecting and editing the location of the individual points that constitute the geometry. Geometry construction from the collection of points is based on the type of the active spatial unit layer in the current edit session.

Note: Each GPX file must correspond to a single spatial unit for this to work.

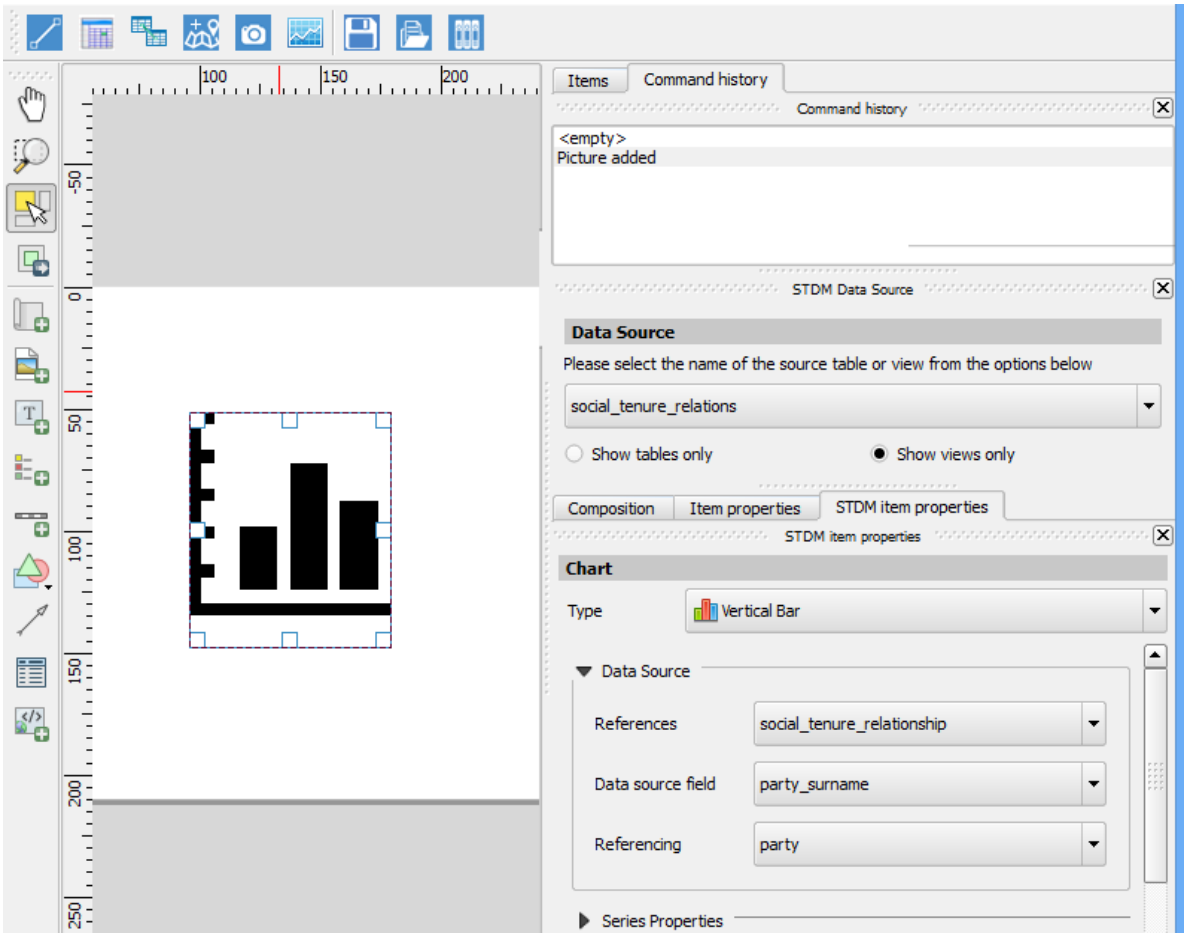


1.2.3. Document Outputs

Added Composer Items in the Document Designer

- The document designer has been updated to include support for linked attribute tables (for example, showing the members of a selected household entity); linked spatial units (which enables point and line spatial units to be drawn in the output document); charts and supporting documents (of image format).

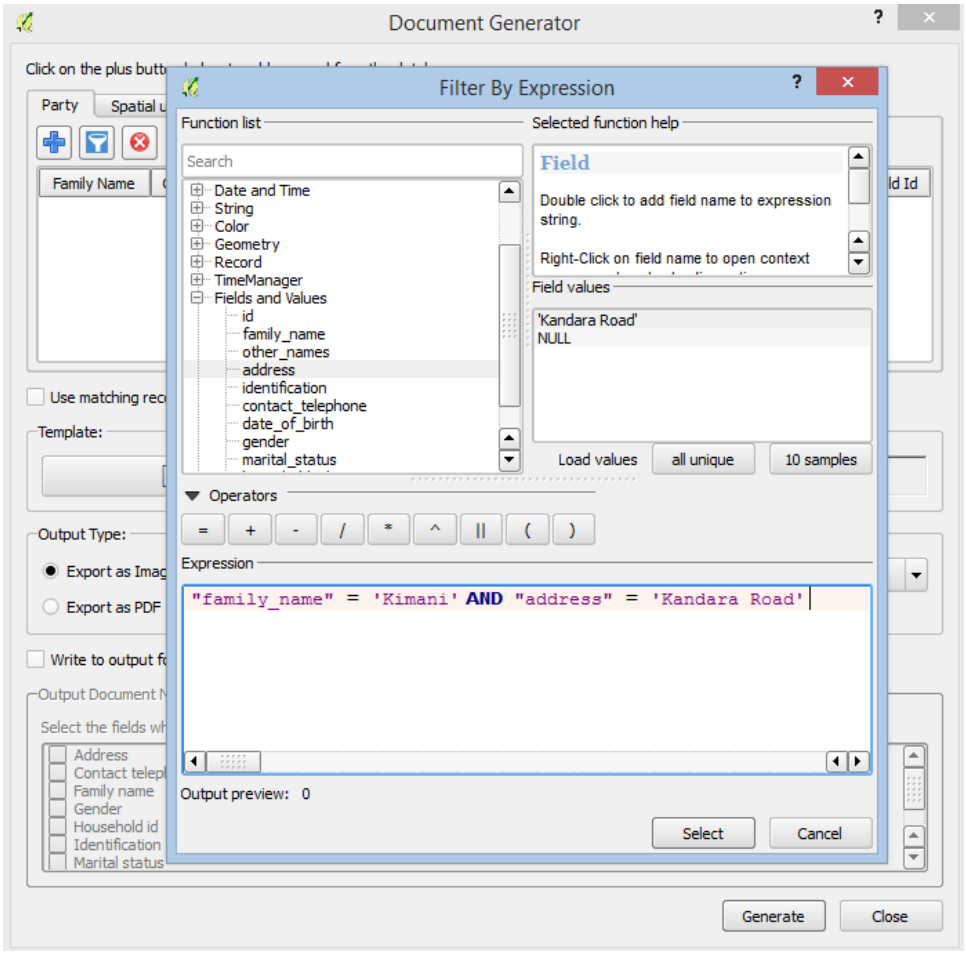
Note: Only vertical bar graphs are supported for now;



more chart types will be added in the next major release.

Advanced Filtering in the Document Generator

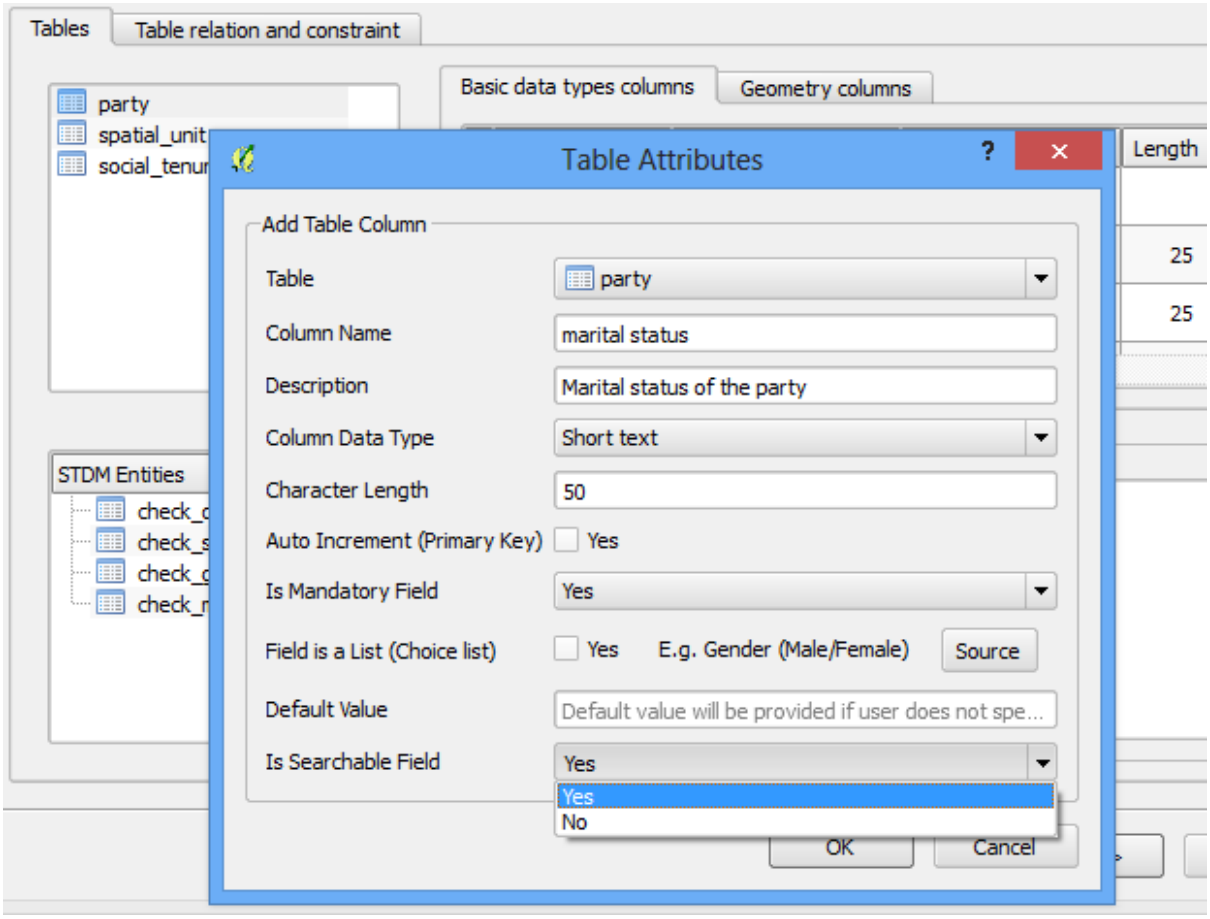
- Entities can now be selected by using filter expressions through an expression dialog that enables users to specify SQL-like statements to filter items.



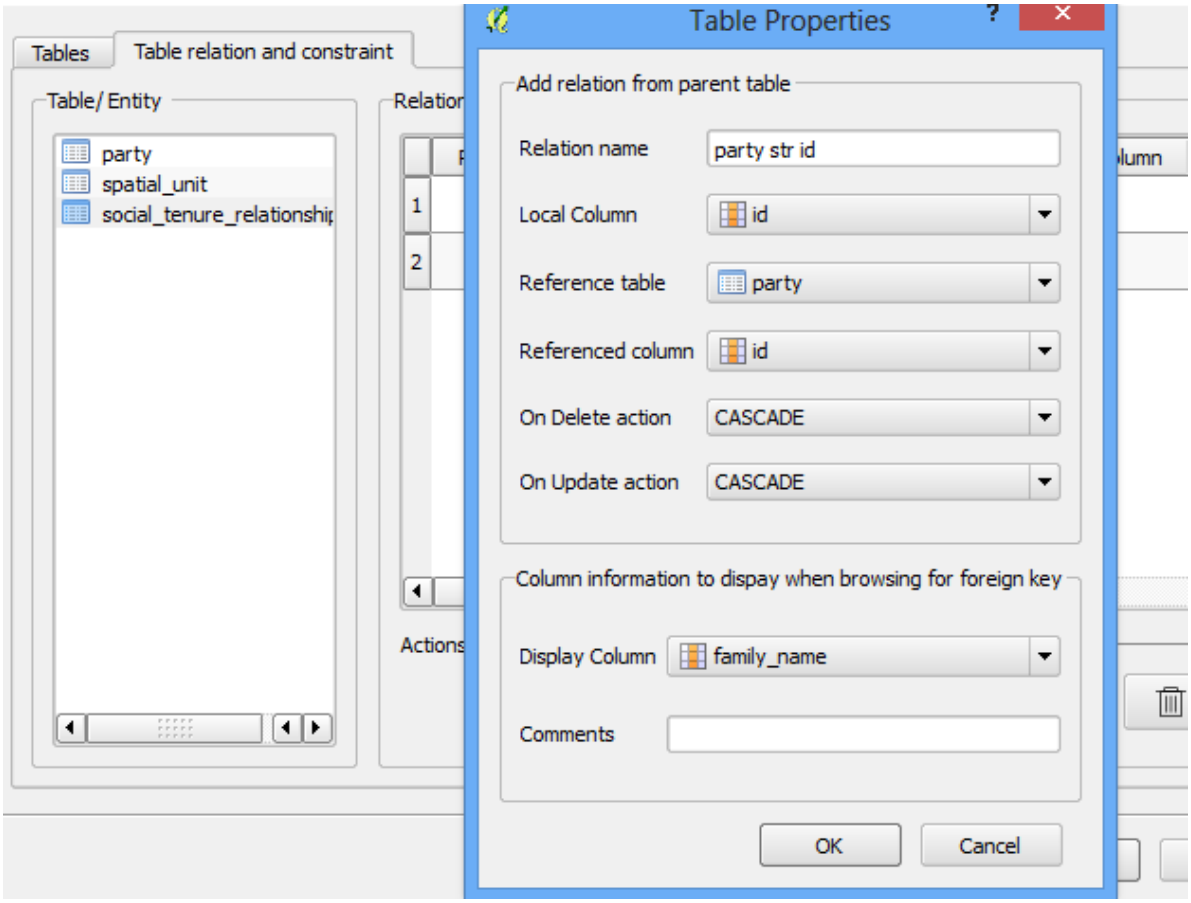
1.2.4. Designing Data Forms

The data forms design module has been greatly enhanced that screenshots only will not do it justice.

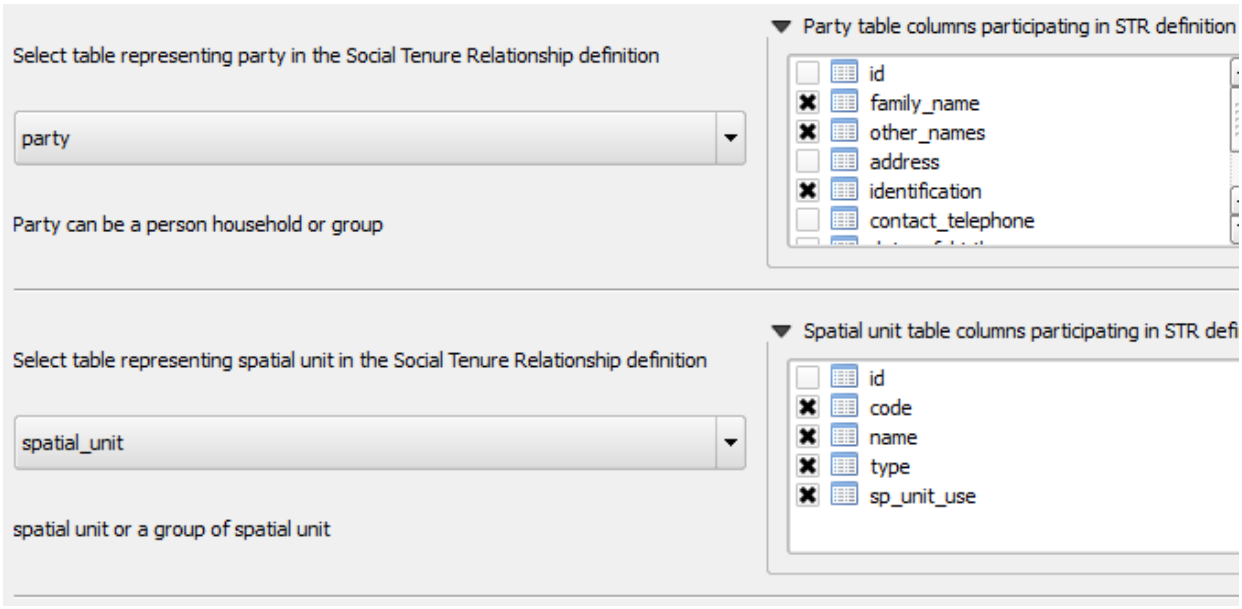
- The module has been stabilized and provides more friendly messages during the design process.
- When specifying the columns of a table, users have the options of specifying which fields will be searchable. The list of searchable columns is applied across multiple dialogs such as entity browsers and the module for viewing social tenure relationships.



- The module provides the option of defining relationships between tables by specifying foreign keys. The result is that users can browse through related entities when adding or editing a record that is explicitly linked to another table. For example, when adding information for a person, a user can browse and select the corresponding household record if the person table contains a foreign key column referring to the household primary key.



- Depending on the profile, users have the option of explicitly specifying which entities will participate in the social tenure relationship i.e. which tables correspond to party and spatial unit respectively.

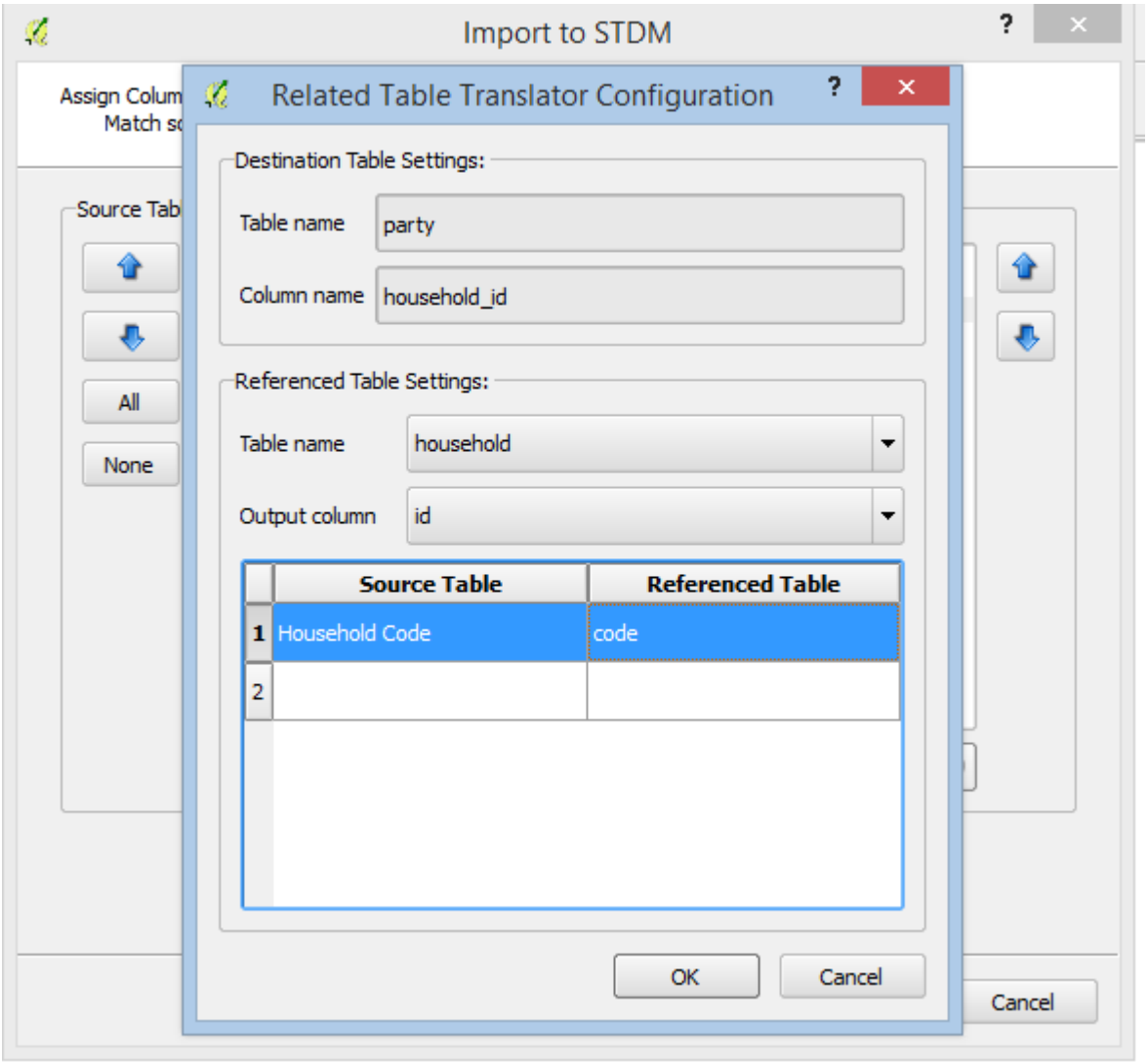


1.2.5. Importing Data to Foreign Key Columns

Users can now import data to a foreign key column in the destination table using the 'Value Translation' framework; one implementation of this framework is the related table translator.

In order to implement this translator, the source table must contain at least one column that refers to a unique value in a related table such as household code/number that a person belongs to. During the

translation process, the system will attempt to look up this value and extract a corresponding value (ideally, the value of the foreign key column) and use this value in the primary reference table.



The 'Value Translation' framework opens up infinite possibilities of transforming data during the importation process such as calculations of age from date of birth; importing multiple enumeration values separated in the source table say by an asterisk or semicolon etc. Look out for sample code snippets on how to adopt the translation framework in the upcoming blog in the STDM website.

1.2.6. Miscellaneous

In addition a wide range of improvements have been made:

- Upon successful login, the system now checks if the specified STDM database has the PostGIS extension installed and notifies the user accordingly if the extension is not detected. This addresses some issues that previously arose if the user did not have a spatially enabled STDM database.
- The document generator module enables users to generate documents using records from the data source defined in the template. This is applicable in cases where aggregate data (from database views) computed using for example, settlement statistics derived from neighbourhood data, is used.
- Icons for accessing the modules through the menu and toolbar have been reworked to have a consistent look-and-feel.
- The module for viewing social tenure relationships has been updated to take advantage of multithreading when fetching lookup values for keyword searches.

1.3.Getting Technical Support

Depending on the context of the support services required, you can use the online resource below to get in touch with GLTN's STDM team:

- For more information, please visit www.stdm.gltn.net or subscribe to: lists.osgeo.org/cgi-bin/mailman/listinfo/stdm-user
- To receive important news and updates around STDM in general, subscribe to: lists.osgeo.org/cgi-bin/mailman/listinfo/stdm-announce
- If you find an issue working with STDM, please report it so that developers can check and fix it. To report a bug, subscribe to: lists.osgeo.org/cgi-bin/mailman/listinfo/stdm-dev or post it in GitHub at: https://github.com/gltn/stdm-plugin/issues

To browse the source codes or extend the core platform, access the repository here: https://github.com/gltn/stdm-plugin

Note: While asking an STDM related question via the mailing lists, kindly provide the following information along with it.

- A descriptive title for your email
- The computer's operating system and version
- The exact STDM version used at that moment
- The process taking place when the system broke down, e.g. new installation, re-installation, system update etc.
- The exact error that has occurred. If possible, attach a screenshot or copy of the error text along with the email.

1.4.Testing platforms

Operating systems:

Windows:

- Windows 2000, Windows XP, Windows Vista or Windows 7 , Windows 8

Linux Based:

- Debian, Ubuntu, Fedora, Red Hat, openSUSE

Hardware requirements

- Atleast 2GB of RAM
- Atleast 2GB free disk space
- 1024x768 screen resolution or higher

1.5.What to know before installing

1.5.1.What do I need to install to have a fully functional STDM?

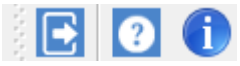
In the provided installation package, there are there core component of software packages that are mandatory for installation for STDM to work properly.

The following need to be installed:

- Quantum GIS (current version 2.8.2)
- PostgreSQL (current version 9.4.2)
- PostGIS (current version 2.1.7)
- Sample data is optional if you want to have a sample data to manipulate and test features of STDM.

1.5.2.Do I need to uninstall previous installation of the above software?

This is not necessary especially if you are working with QGIS 2.6 or higher and postgres 8.4 or higher. In this case, you need to do the following:

- Start QGIS normally and wait for it to load
- Download the latest version of STDM plugin from github: https://github.com/gltn/stdm by adding STDM download repository in the QGIs Plugin manager. see instructions here (Download From repository)
- Using postgreSQL database browser i.e pgadmin create a new database called **stdm**.
- Within stdm database, create postgis extension.
- On the QGIS window, check if STDM is enable on the menu and toolbar 
- Delete previous config files in the the working directory.
- Login and configure data forms wizard to finish.

1.5.3. Upgrade your configuration file

The current version has rich and improved features that have also been changed in the configuration file. It is recommended to remove previous config file in your workspace so that the improved configuration can be copied.
This only applies if you are running stdm version 1.0.

Error: Duplicate keys for the modules exits:
This error is mostly attribute to mismatch of config file and especially where new module were created to replace the existing ones. To remove this error, you either restore the original config files or simply ask administrator to run pgadmin and open stdm database, then truncate all the values in the content base and content roles tables. The problem should be fixed.

1.6. Using Bundled STDM installer

The bundled installer is the custom installer that is built to help you easily install stdm and dependent software packages.

Note:

- *32bit machine please select and run **STDM-1.1-Final-x86.exe** setup file,*
- *64bit machines run **STDM-1.1-Final-x86_64.exe** setup file.*

Installation steps

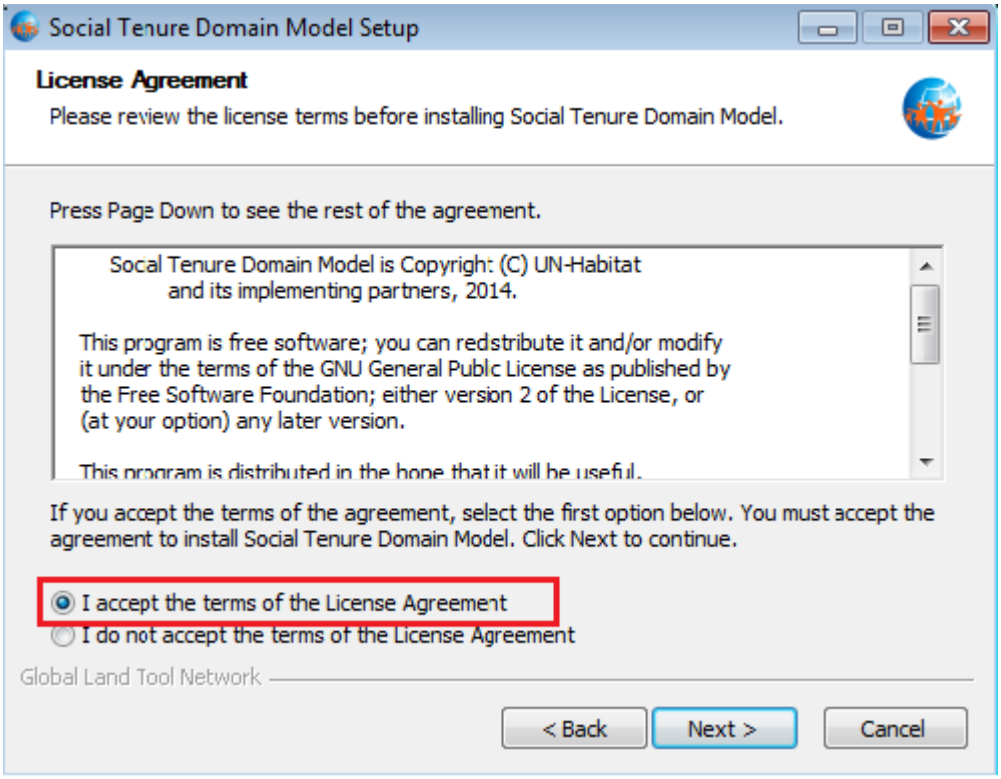
Step 1

- Run the installer by double clicking on setup file and select 'Next'.

Social Tenure Domain Model Setup
Welcome to Social Tenure Domain Model Setup
Setup will guide you through the installation of Social Tenure Domain Model.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Social Tenure Domain Model
A Plugin for QGIS v2.8
GLTN
FACILITATED BY
UN-HABITAT
Next >
Cancel

Step 2

- Read the license agreement, and if you accept select the first option and click 'Next' to proceed to step 3


Social Tenure Domain Model Setup
License Agreement
Please review the license terms before installing Social Tenure Domain Model.
Press Page Down to see the rest of the agreement.
Socal Tenure Domain Model is Copyrigh: (C) UN-Habitat
and its implementing partners, 2014.
This program is free software; you can redstribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
This program is distributed in the hope that it will be useful,
If you accept the terms of the agreement, select the first option below. You must accept the agreement to install Social Tenure Domain Model. Click Next to continue.
I accept the terms of the License Agreement
I do not accept the terms of the License Agreement
Global Land Tool Network
< Back
Next >
Cancel

Step 3

Choose the components you would like to install, the following are the available components;

3.1 **QGIS Wein 2.8.2 for STDM** – This will install QGIS with STDM plugin embedded

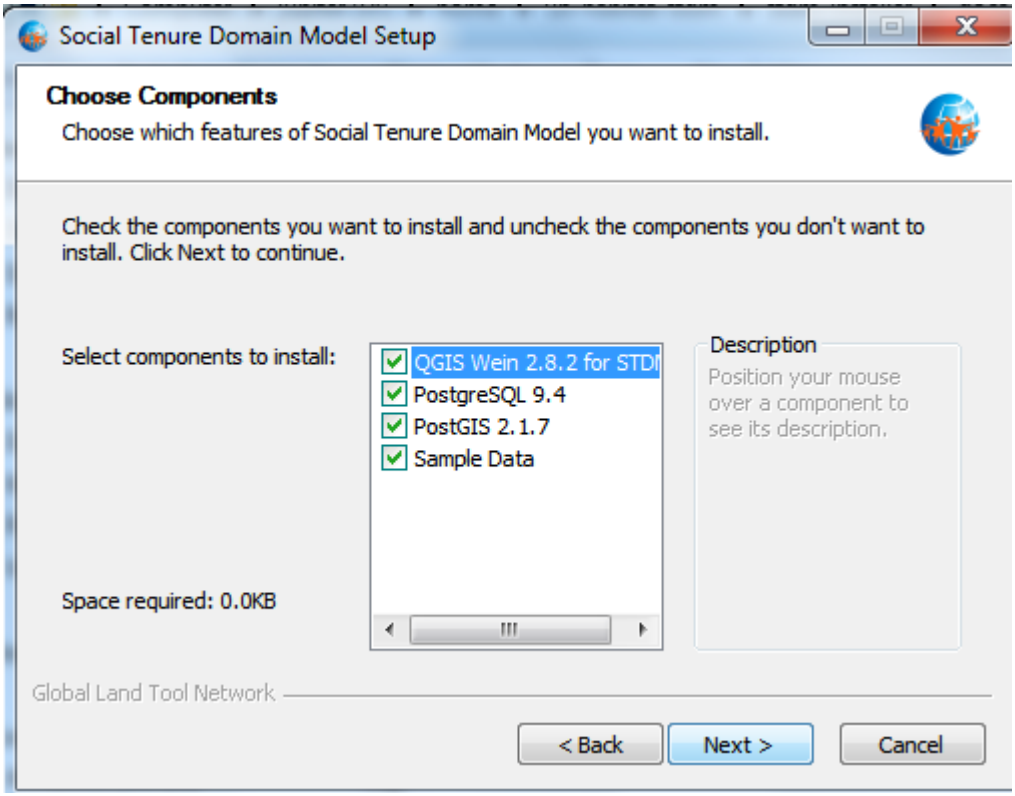
3.2 **PostgreSQL 9.4** – This will install PostgreSQL database server, if you don't have PostgreSQL make sure you select this option, STDM will not work without it.

3.3 **PostGIS 2.1.7** – This install the GIS plugin for PostgreSQL, if you don't have it in your machine make sure you select for installation.

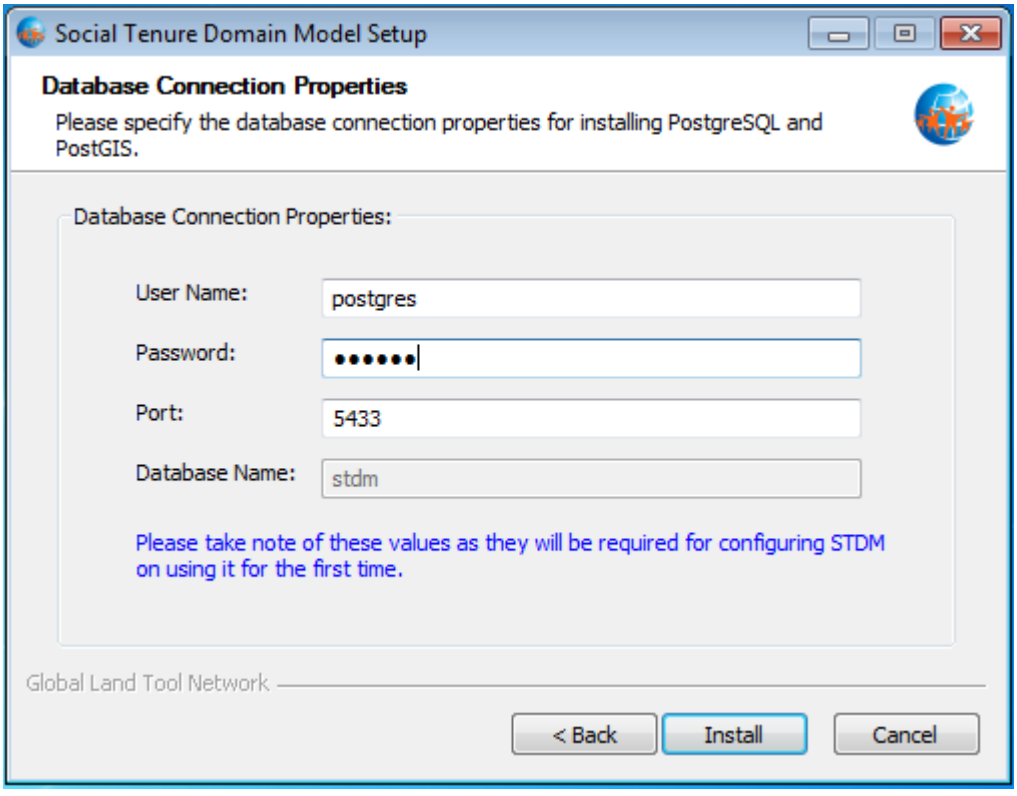
3.4 **Sample data** – This will install sample files for STDM plugin. This is not a mandatory option, but new users are recommended to install to help them jump start with STDM practice.

***Note**: If you already have PostgreSQL or PostGIS installed, the installer will skip installation of those components.*

After your selection, click '**Next**' to start the installation.


Social Tenure Domain Model Setup
Choose Components
Choose which features of Social Tenure Domain Model you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
QGIS Wein 2.8.2 for STDI
PostgreSQL 9.4
PostGIS 2.1.7
Sample Data
Description
Position your mouse over a component to see its description.
Space required: 0.0KB
Global Land Tool Network
< Back
Next >
Cancel

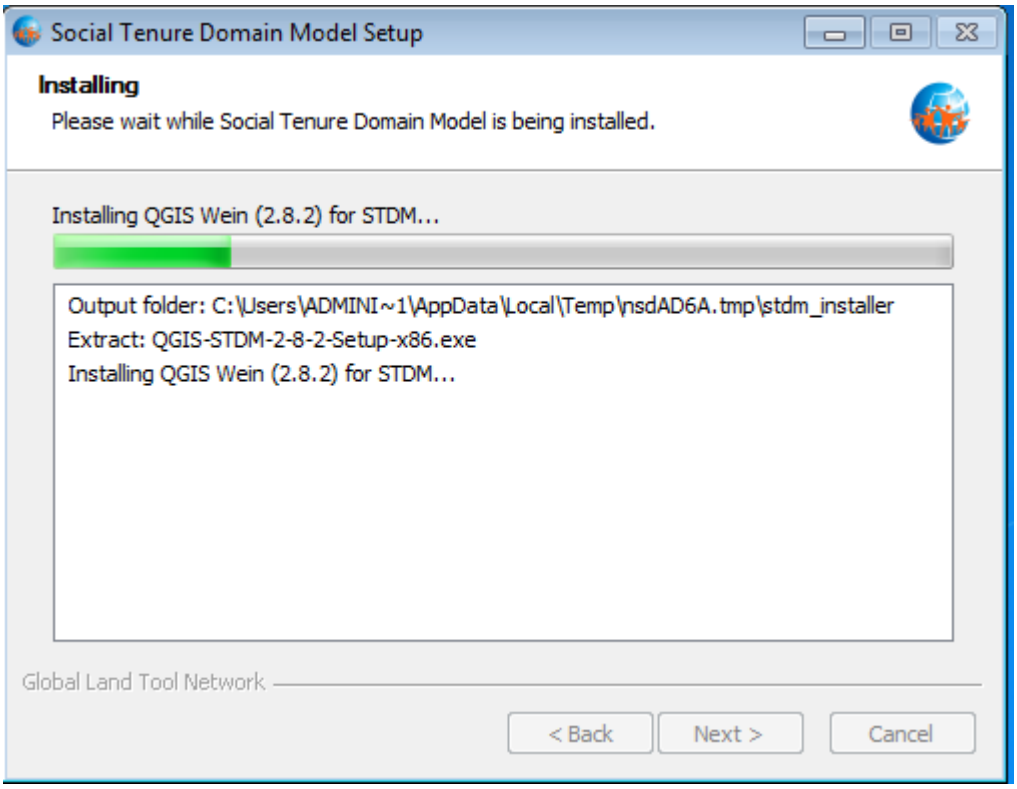
Step 4
Database connection properties.



*The window allows you to set the **username** and **password** to use with STDM. Leave the default port to 5433, this is where PostgreSQL server will be listening for database connections (for more details on PostgreSQL connections setup please see documentation in http://www.postgresql.org)*

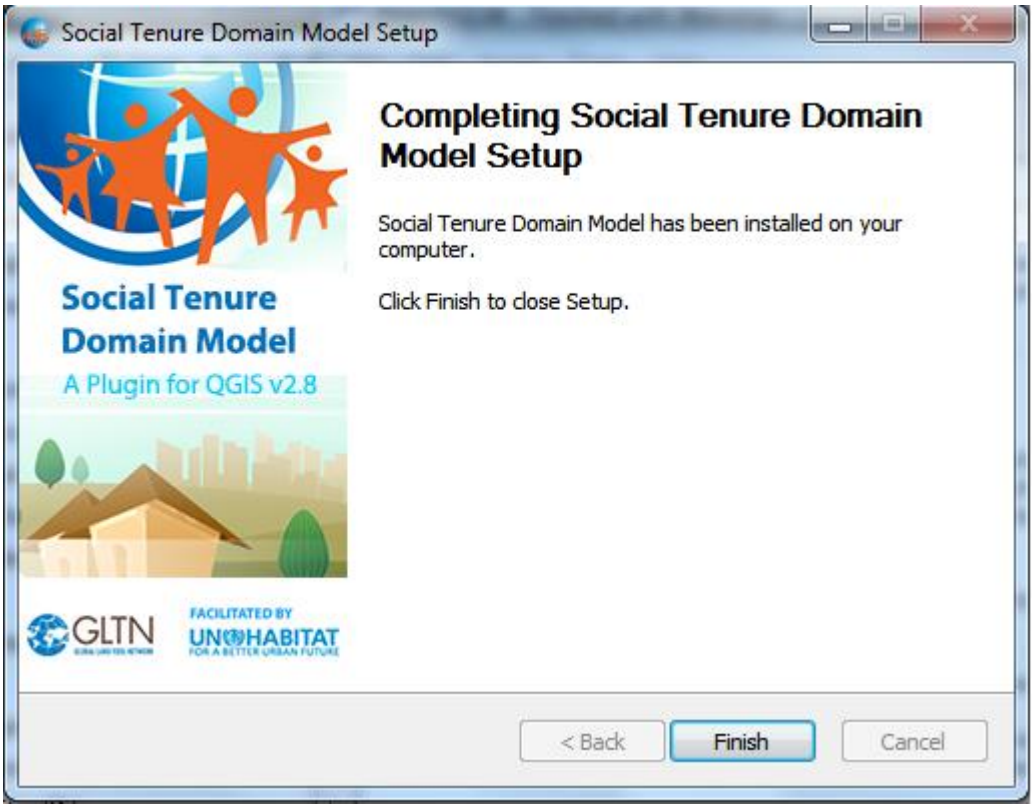
Step 5

This is the actual component installation. *QGIS, STDM, PostgreSQL, PostGIS* and all other dependencies will be installed in 'C:\Program Files\ QGIS Wein for STDM' folder. Depending on the speed of your machine, this process might take slightly about 15 minutes.


Social Tenure Domain Model Setup
Installing
Please wait while Social Tenure Domain Model is being installed.
Installing QGIS Wein (2.8.2) for STDM...
Output folder: C:\Users\ADMINI~1\AppData\Local\Temp\nsdAD6A.tmp\stdm_installer
Extract: QGIS-STDM-2-8-2-Setup-x86.exe
Installing QGIS Wein (2.8.2) for STDM...
Global Land Tool Network
< Back
Next >
Cancel

Step 6

After successful installation, please close the installer by selecting '**Finish**' button. Go ahead and run QGIS for STDM from the icon created on your computer desktop.

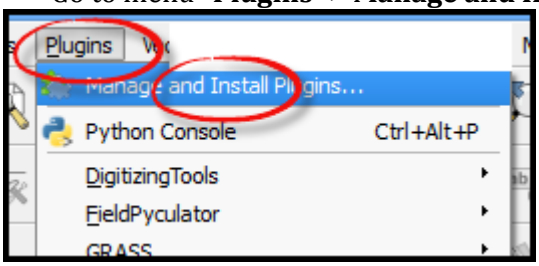


Continue to [getting started]

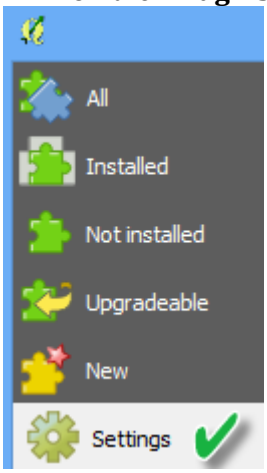
1.7. Installing From GLTN Plugin Repository

For users with an already existing installation of QGIS version 2.6 or higher and do not want to uninstall current version, we recommend that you download STDM plugin from the repository using the following steps.

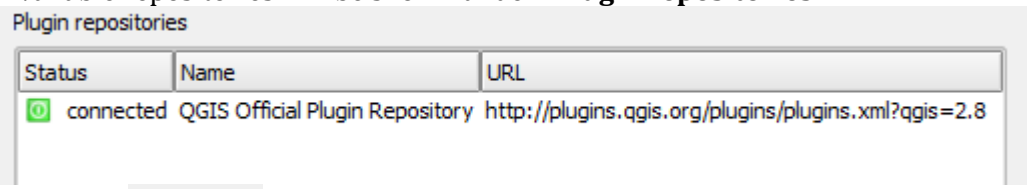
- Start QGIS normally and wait for it to load
- Go to menu **"Plugins -> Manage and Install Plugins ..."**



- Wait for the plugin to fetch available plugins from the web repository (only if online)
- " On the **"Plugins"** dialog select **"Settings"** tab



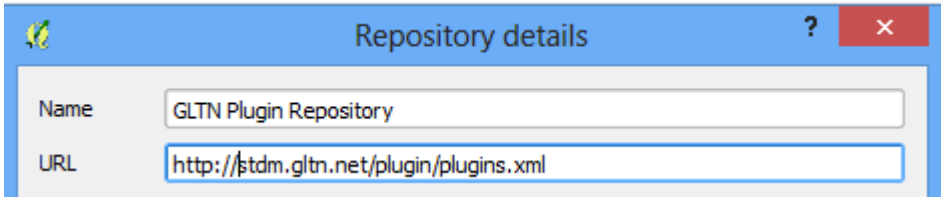
Available repositories will be shown under "**Plugin repositories**"



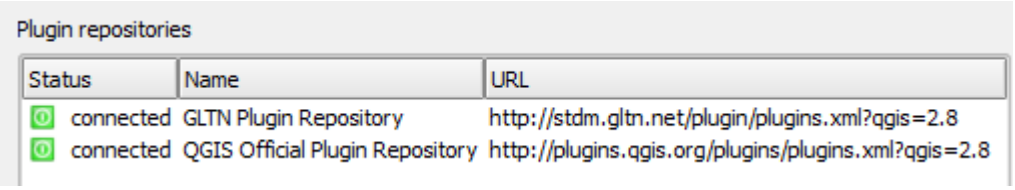
- Select Add... to open repository details dialog. The dialog allows you to enter additional repository properties,

To add STDM plugin repository, please enter the details as follows;

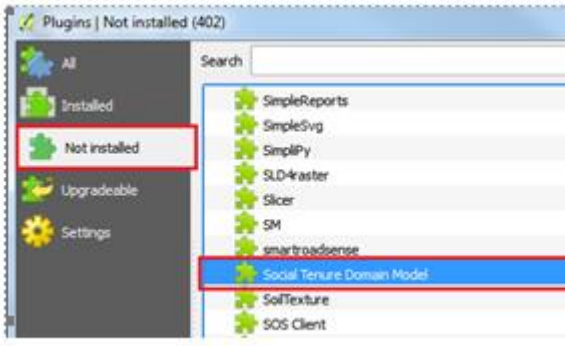
1. In the Name field enter: **GLTN Plugin Repository**
2. In the URL field enter: http://stdm.gltn.net/plugin/plugins.xml
3. Ensure "Enabled" option is checked then select "OK" to close.



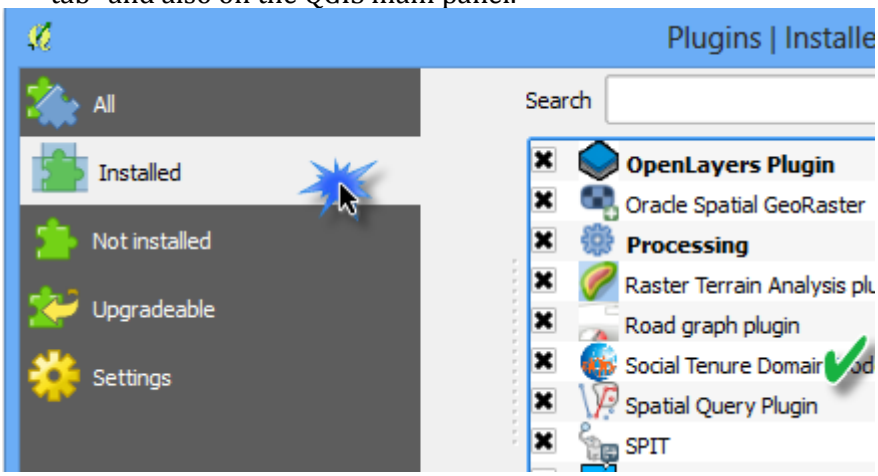
- Click **Ok** to dismiss the dialog.
- The dialog will try accessing the added repository (if online) and pull the linked plugins. If successful the repository will be added to the list.



- Still on the **"Plugins"** window select **"Not installed"** tab, look for STDM plugin on the list of `Not installed` plugins. Select it and click **"Install plugin"**.



- QGIS will download and install STDM plugin. The plugin should now be available on the "Installed tab" and also on the QGIS main panel.

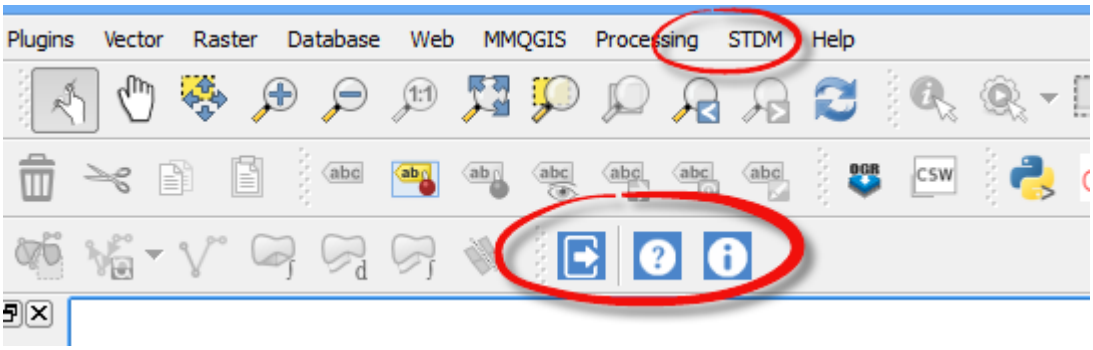


- Click close to dismiss the dialog.

Now you ready to start using STDM.

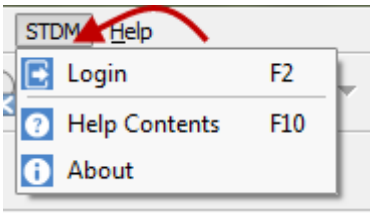
1.8. User Interface

The user Interface for STDM is embedded within QGIS Main Window. To access STDM, QGIS Main window must be opened first.
STDM appears as follows in the QGIS Main Window.



Default view

1. STDM menu has the few command items when you are not logged in. Clicking the menu from the QGIS Menu bar, the following menu items appears.



Login - Prompts you to connect to the database and access full STDM items. username and password is required to connect.

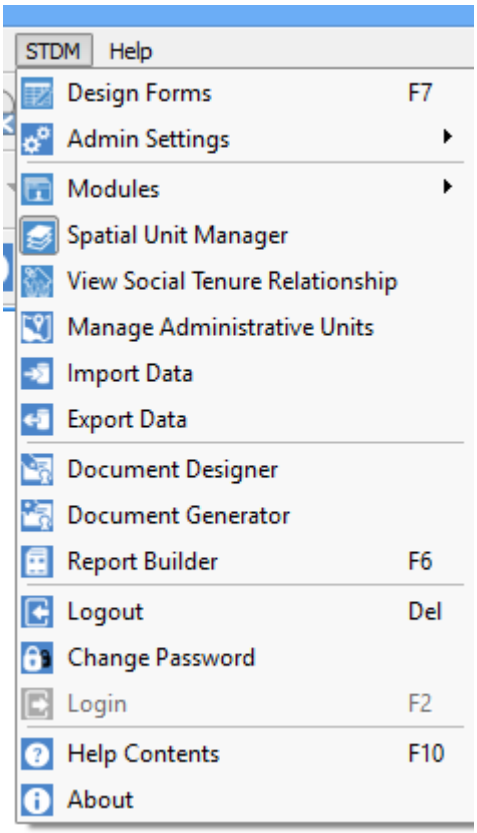
Help Contents - Provides access to STDM user manual.

About - Brings up the about us text.

Full view

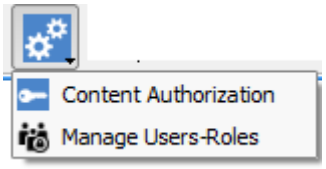
Login credentials are required to access full menu items especially if you are the administrator. .
Read more about Login here

STDM Menu Items

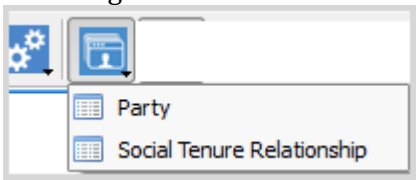


STDM Tool Bar Items

Design Forms - Brings up the configuration wizard that allows you create and customize data forms which is converted to database schema. Keyboard shortcut is F7.



Admin Settings : Content Authorization - allows you to grant access such as Create, View, Edit, Delete to other STDM functions.
Admin Settings: Manage Users-Roles - Brings up a dialog for you to create users and roles for accessing various STDM functionality.



Modules - Provides a quick access to module's data browser and data forms for data management which were designed in the Configuration wizard.
Foreign Keys - Allows you to access parent table ids in the child table within the module browser and must be defined in the Design Forms
Supporting Document - Allows you to add files from the directory during the definition of Social Tenure Relationship.

Manage Administrative Units - Brings up the dialog for you to define geographic zones and administrative areas as per the project scope.
Access to these administrative areas is provided in the forms using foreign keys definitions.

Import Data - The wizard allows you to import map or attributes data into specific module/ table in STDM database.

Export Data - The wizard allows you to export data from STDM database into several output formats.

Document Designer - Brings up the QGIS Composer window with STDM toolbar items to allow you create document templates to be used when generating reporting and certificate formats.

Document Generator - Provides a dialog that allows you to generate report specific module reports from the designed templates.

Report Builder - Provides a wizard for creating and generating flexible report in PDF formats from the selected modules and views.

View Social Tenure Relation - Opens a window that allows to define and view defined social tenure relations in the database.

Toggle Spatial Unit Editing mode - Allows you to toggle the current STDM later editing state on and off .

Spatial Unit Manager - Activates or deactivates the docked STDM spatial unit manager

Logout - Closes the current session and returns you to minimal view.

Change Password - Enables you to change the password of the current user in the current session.

STDM Spatial Unit Manager Window is a dock able window that is only available when logged in to STDM (Full view) providing quick access to STDM layers in the database.
It also allows you to import data from GPS into STDM database directly. The window quickly disappears when you logout.

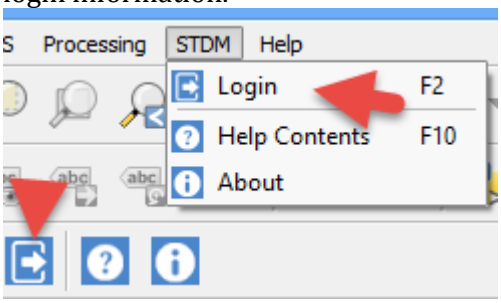
2. Getting Started

2.1.Login to STDM

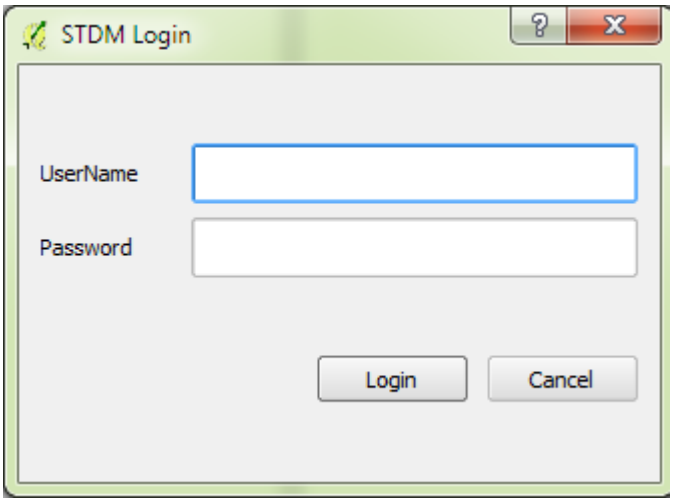
Note: Make sure QGIS is started and running while STDM is visible in QGIS interface tool bar.

To start QGIS, Look for this Icon and double click to run or if you are using the custom build (Downloaded from stdm website) click on QGIS Desktop icon to start.

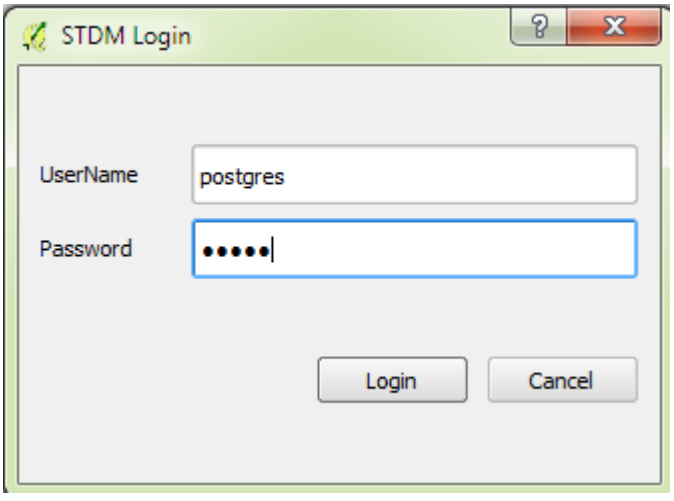
1. Click the login button . This will prompt a login dialog where user is required to provide the login information.



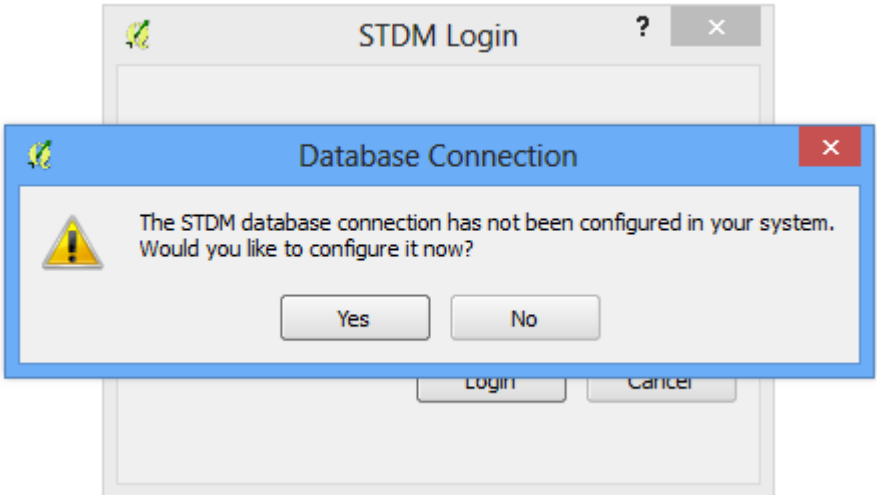
A login dialog will pop up. You are required to provide login credential using the default user (postgres) created during installation of the software.



For the;
1. user name: (default) = ***'postgres'***. Administrator can change the user name later.
2. Password: Provide your own password that was created during installation procedure.

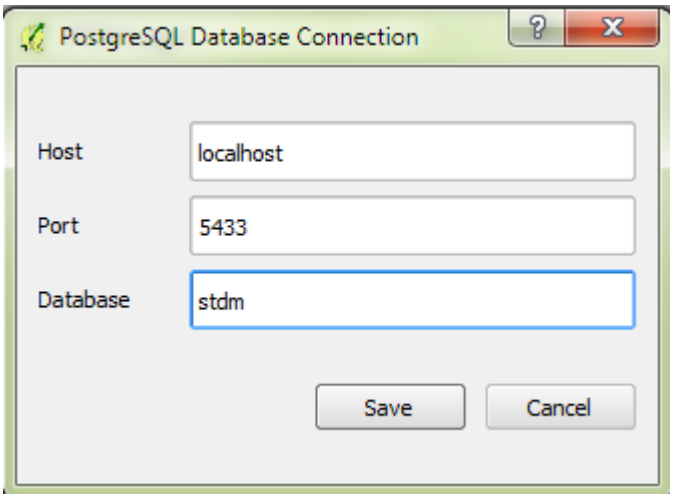


2. Then, click on **Login** or hit Enter button on the keyboard.
The cancel button in the wizard will cancel the login procedure.


STDM Login
Database Connection
The STDM database connection has not been configured in your system.
Would you like to configure it now?
Yes
No

For the first time login, the above dialog appears, this is a prompt to setup the server connection parameters that STDM will use to interact with your database.

3. Click yes to enable the settings dialog to load.
The server settings include;
1. **Port**; **Port** is the default access port for postgreSQL server, i.e **5432 or 5434..** this was specified during the installation procedure.
2. **Database** name; **stdm** is default, any other database the user has created. postgis extension must be created/ added in the database.
3. **Host**: host is the server location, if LAN setup provide IP address of the server else, provide local host for local computer (one computer). I.e **"localhost"**

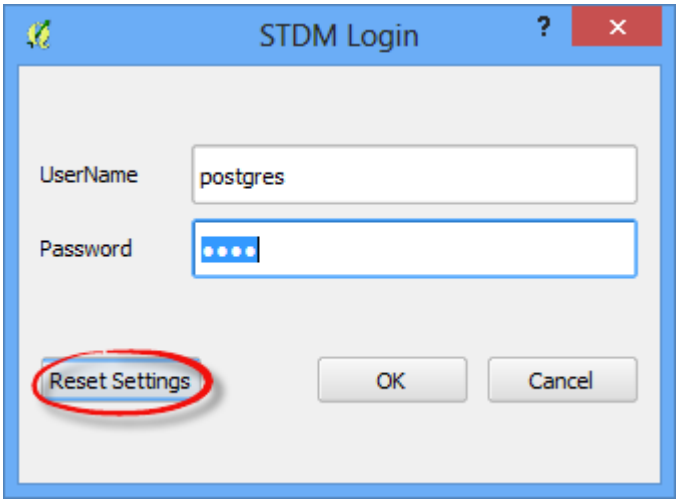


4. Click **Save** button

5. Then, click **OK** or hit **Enter button** on the keyboard. If successful, the dialog will disappear, else the login dialog will persist with an error.

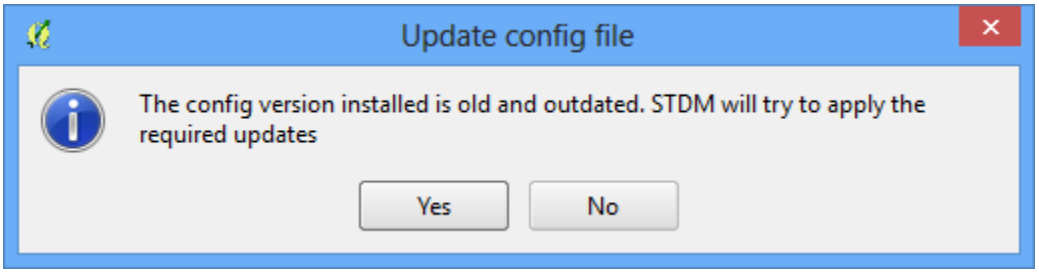
Reset Settings button will be visible to allow to you edit the server/ registry settings.

6. Click **Reset Settings** if you need to edit the server settings saved in the registry. Go to reset setting page to learn how to reset the server settings.



For successful Login,

The following messages may appear based on detected previous settings in your computer.

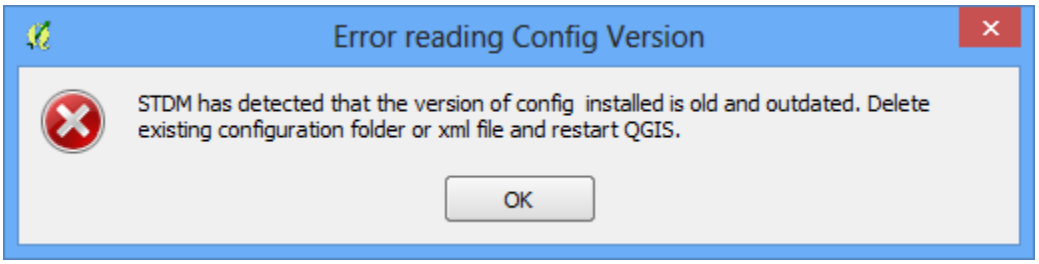


This will happen if STDM detects that the configuration file installed from previous version is outdated. Click Yes to update the configuration.

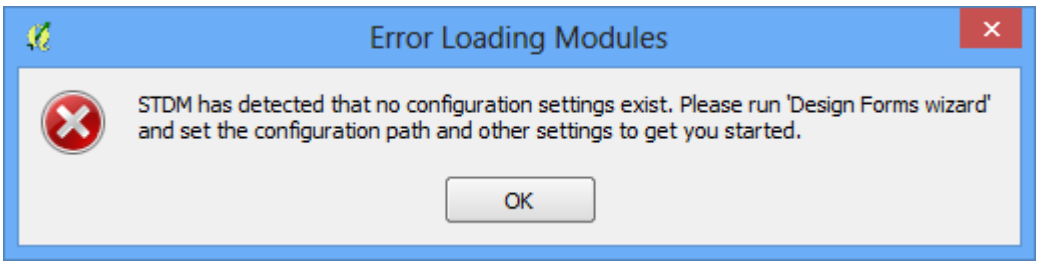
Note: Any changes made to the configuration will be lost.

Click No to preserve your settings. This however does not resolve the problem. It gives you an opportunity to back up the config file and manually remove it so that the new one can be copied.

The following error message will appear if No is selected.


Error reading Config Version
STDM has detected that the version of config installed is old and outdated. Delete existing configuration folder or xml file and restart QGIS.
OK

The following message may also appear for the first time to alert you to configure your settings soon after login. This message only appear only when stdm detects your configuration file is missing.


Error Loading Modules
STDM has detected that no configuration settings exist. Please run 'Design Forms wizard' and set the configuration path and other settings to get you started.
OK

Click Ok to proceed.

The toolbar and STDM menu will be populated with STDM tool command icons (Full View)

6. A look at STDM Toolbar icons

Designing Data Forms

To proceed to other STDM features, you **MUST** go to "Designing data forms" for first time use here and follow the steps for creating the default schema.
However, if sample data was selected for installation, this process can be skipped.

Once you have configured the Design Forms wizard, the other features can now be accessed without difficulty.
Note: Design Form wizard is required only when you need to make changes to your database schema.

2.2. Creating Data Forms

To proceed with this step, ensure QGIS is started and running. You also need to have logged in to STDM. To login, follow the login instructions provided in the login section.

3. Designing Data Forms for first time use

If successful login, the plugin menu will be populated with available STDM contents and likewise on the toolbar.

The Design Data Form configuration interface consists of -:

- Title panel- which reads the title of the main page
- Main panel- provides the functionality of various controls that user interacts with while setting up the main plug-ins.
- Navigation panel – provides controls for progressing or going back in the configuration steps. Help buttons loads the help file document.

Setting up configuration file

First time installation comes with empty database that needs to be populated with the default schema and tables. As a first step, STDM needs to configure a start-up file before any other action is engaged in the plugin menu. To do this, configure the data entry forms and profile using the Design Forms wizard.

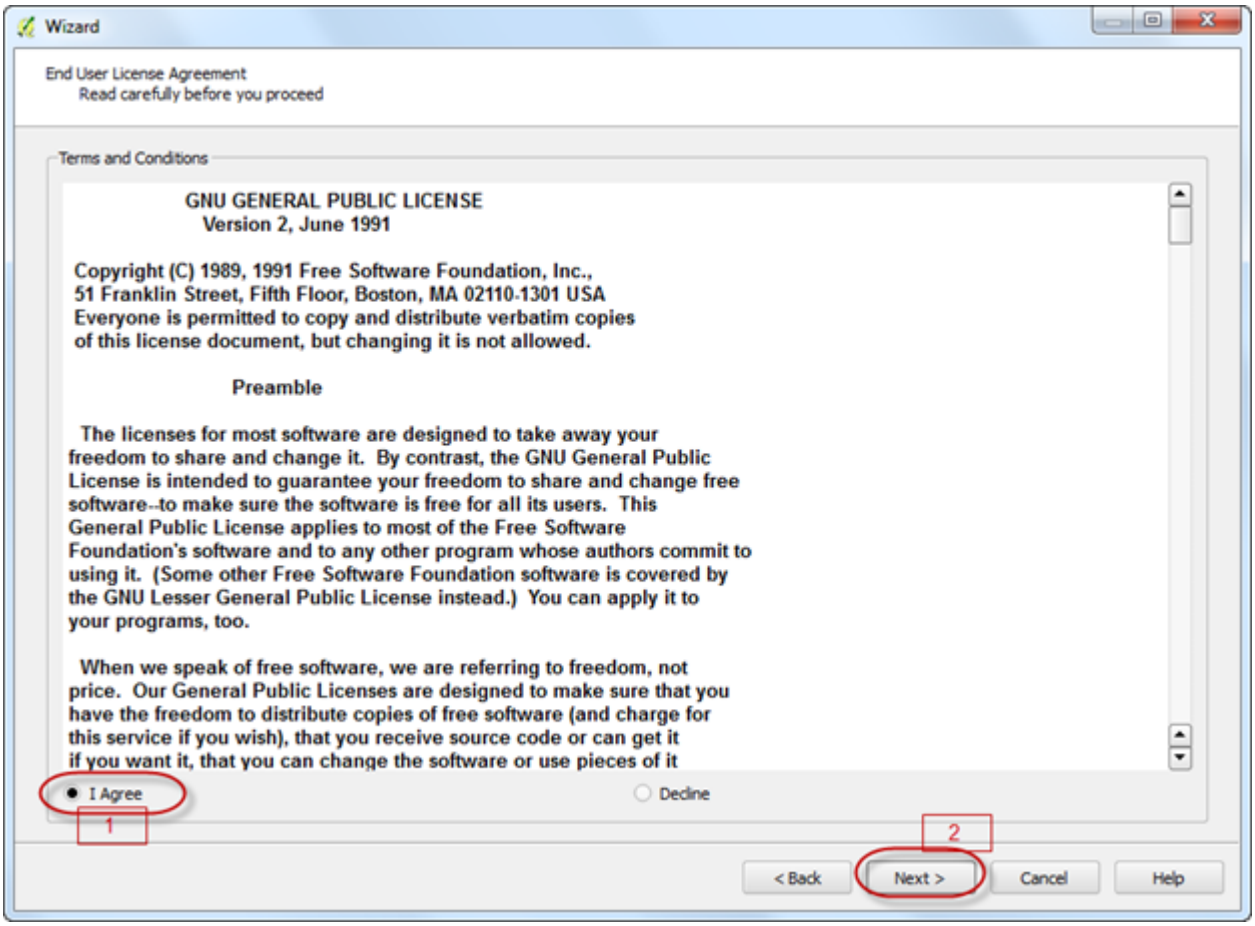
The configuration file can be edited manually but requires basic understanding of xml file structure. The wizard allows you to edit the file without worrying about the background activities.

Procedure for configuration:

1. Click on the **STDM plugin** menu and select **Design Forms** (or Press F7) to launch the wizard.

A splash screen will appear.

2. Click **Next** to proceed


Wizard
End User License Agreement
Read carefully before you proceed
Terms and Conditions
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
I Agree
Decline
1
2
< Back
Next >
Cancel
Help

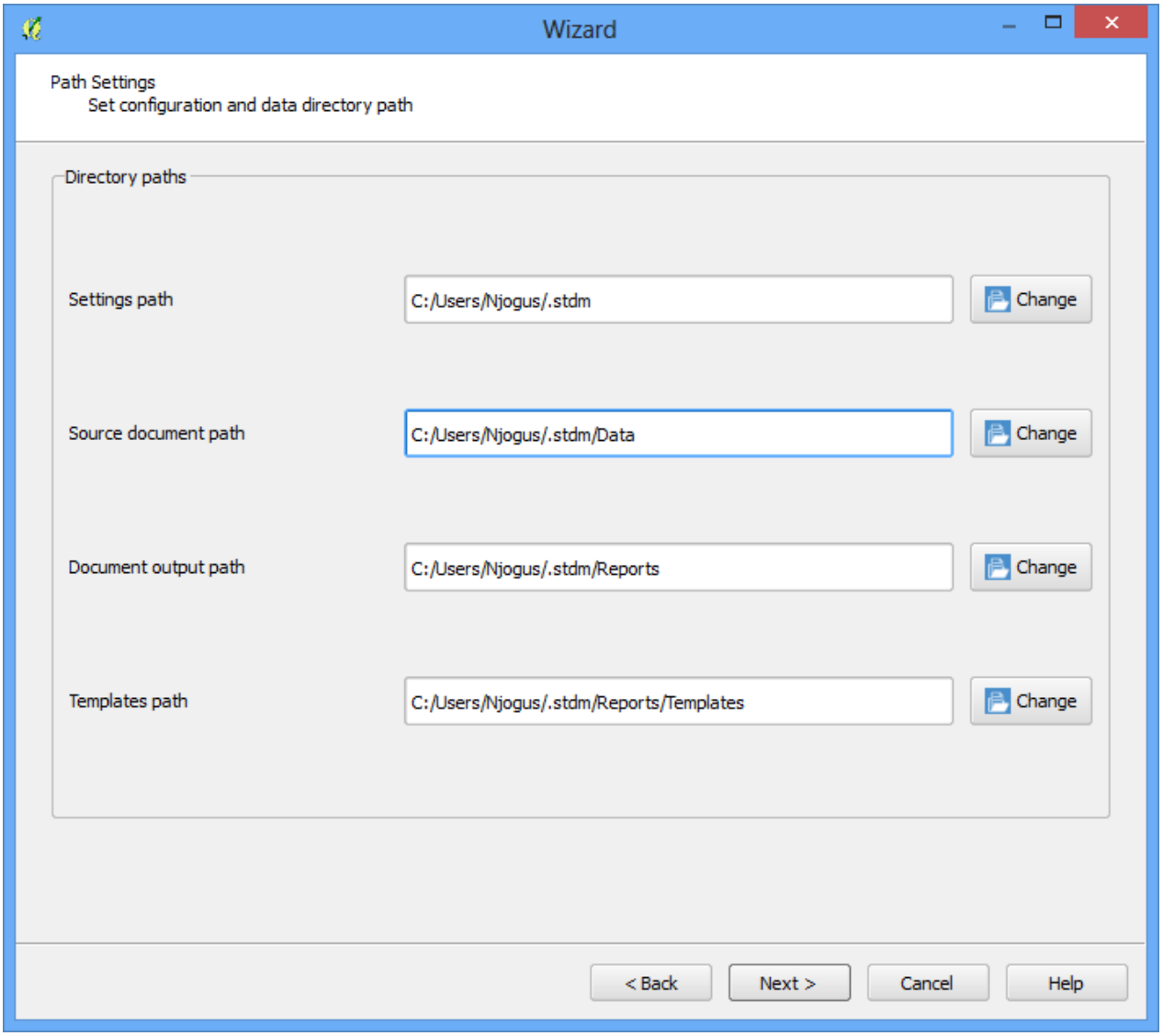
3. Accept the license agreement by clicking **I Agree** and then click **Next**

4. The next interface appears allowing the user to set up the configuration **settings path**, the **data path** and **reports path**.

For Windows users, a default path is loaded. For Linux and Mac this path may fail to appear. Specify the desired location for for data storage.

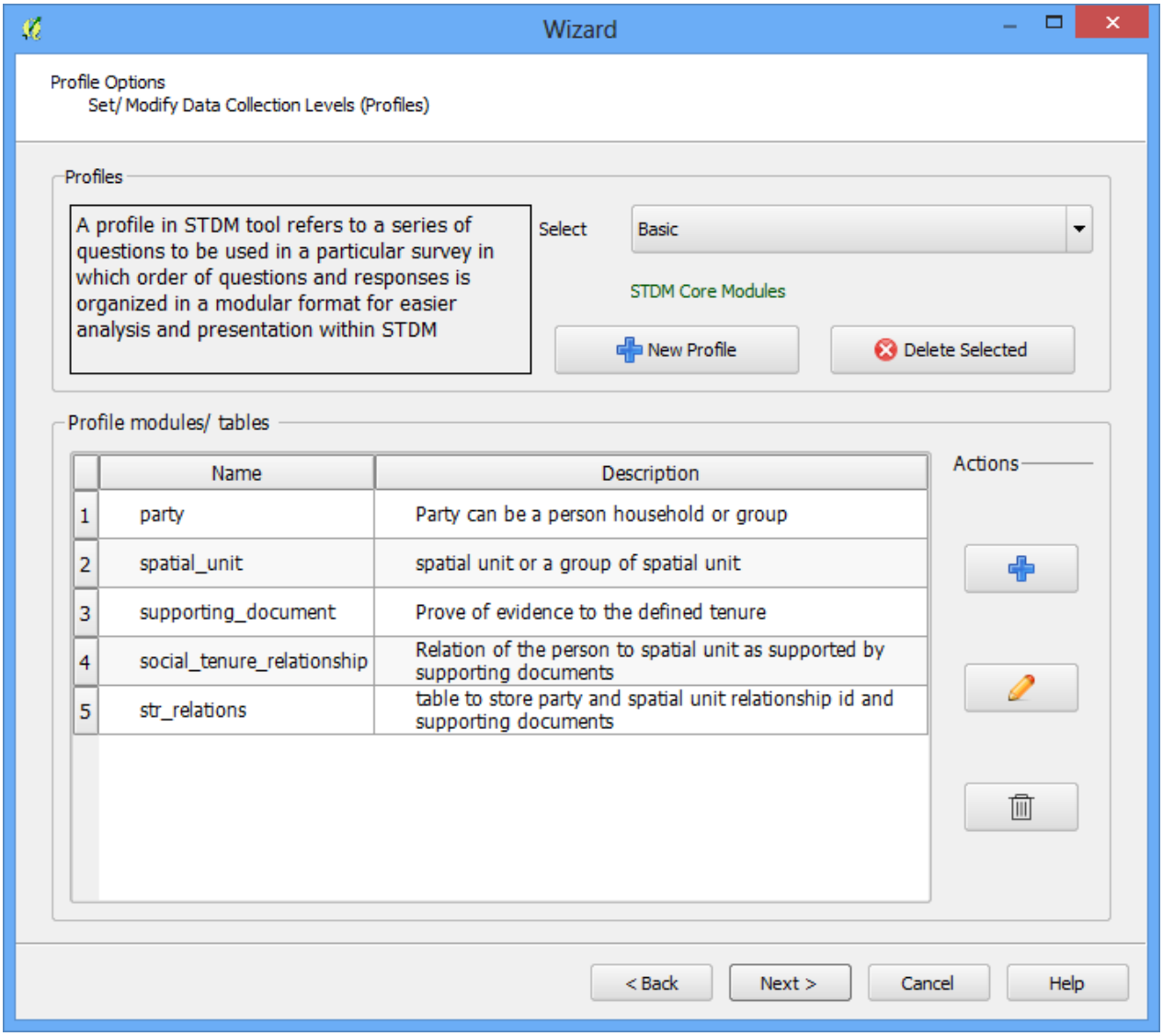
By default, the wizard will create a folder ".stdm" in user profile directory where necessary configuration files will be stored.

5. Click **Next** to continue.



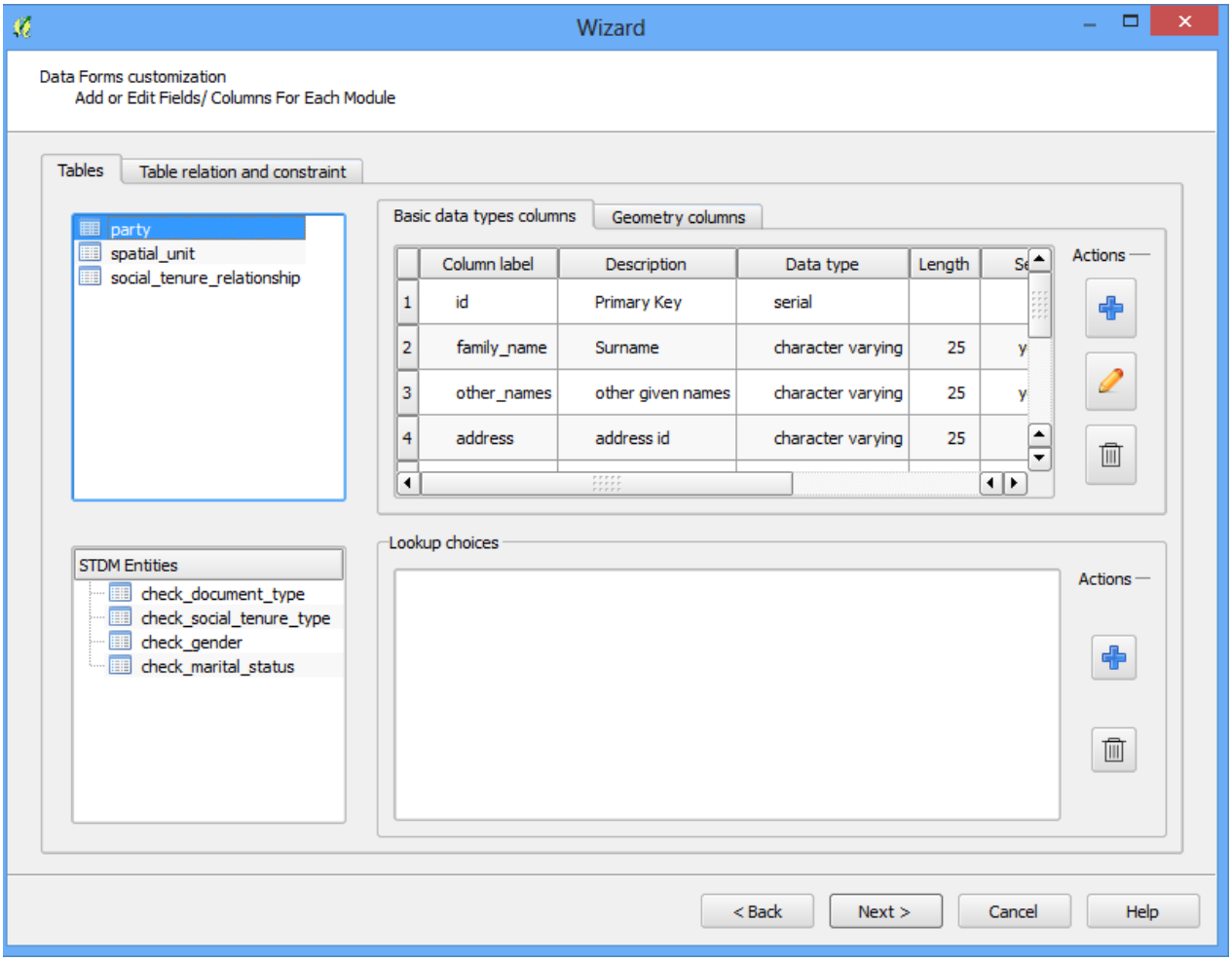
Note: STDM comes with a default setup profile which has Party, Spatial unit, Supporting document, Social Tenure Relation and social tenure supporting documents (str_relations) tables as shown below; However, a user can create new profiles and additional modules on the existing profile.

It is not advisable to remove the core modules provided in the configuration as this may affect other settings which may take time to configure for basic users. Extending the modules and/ or editing of the field is allowed and better done through the configuration wizard. The core modules are (person/ party, spatial unit, social tenure relationship and supporting documents).


Wizard
Profile Options
Set/ Modify Data Collection Levels (Profiles)
Profiles
A profile in STDM tool refers to a series of questions to be used in a particular survey in which order of questions and responses is organized in a modular format for easier analysis and presentation within STDM
Select
Basic
STDM Core Modules
New Profile
Delete Selected
Profile modules/ tables
Name
Description
1 party
Party can be a person household or group
2 spatial_unit
spatial unit or a group of spatial unit
3 supporting_document
Prove of evidence to the defined tenure
4 social_tenure_relationship
Relation of the person to spatial unit as supported by supporting documents
5 str_relations
table to store party and spatial unit relationship id and supporting documents
Actions
< Back
Next >
Cancel
Help

At this level the user has option of adding addition profile tables to the basic tables as shown above. For the purpose of this exercise, customizing profile will be skipped. If you need to customize at this level, go to Customizing for new profile

6. To proceed to the next page, click **Next**
The page below will appear.



Here we have for sections:

1. The List of table in the default profile. Top left panel(1)

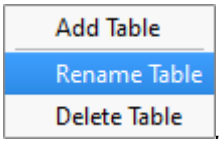
2. The column editor panel: Top right panel(2)

3. Data categories table ('Lookup tables), Bottom left(3)

4. Look up table choices, Bottom right (4)

By clicking on any of the modules in (1) above, the available columns for the selected module will be loaded at (2)

At this level, if you right click on the top left panel (1) , you have the option of adding, editing and deleting tables and lookup options from the pop up menu.



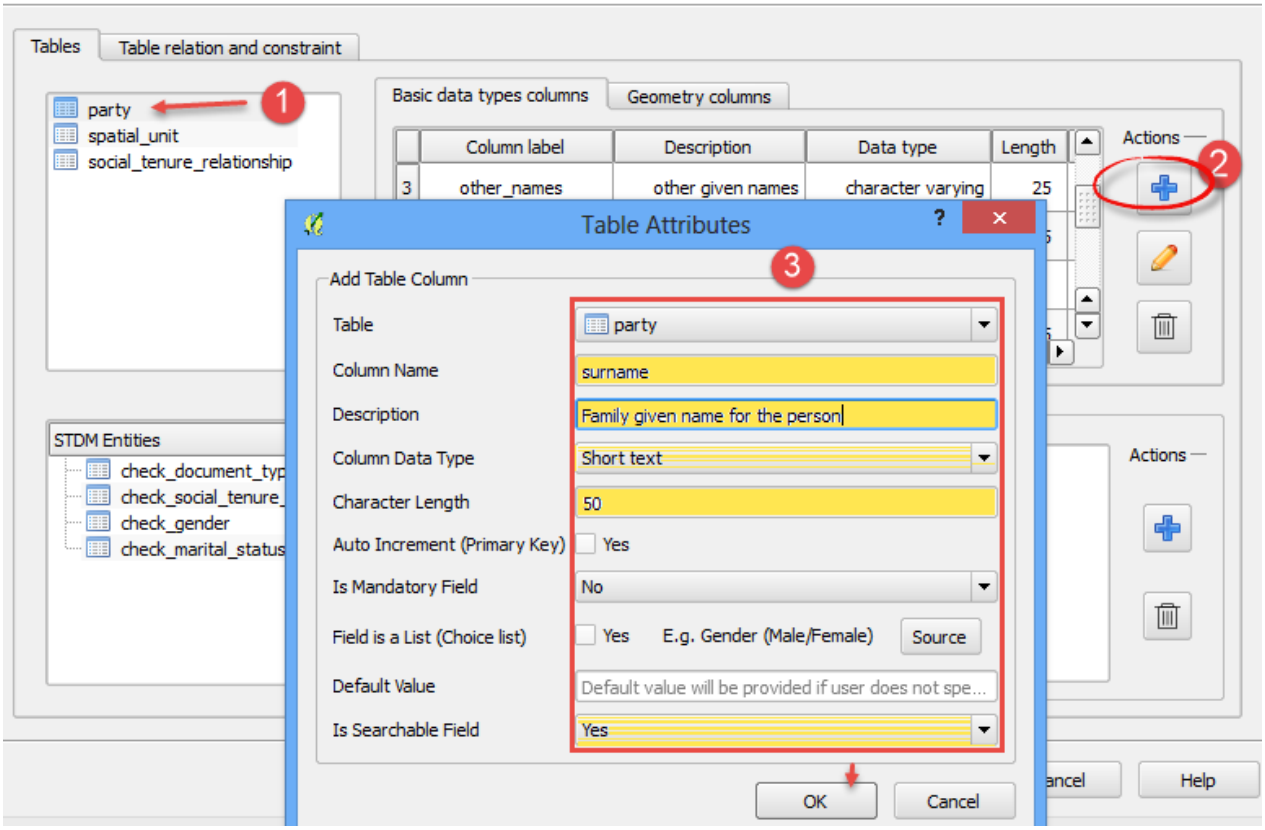
Adding table field/ columns:

Steps:

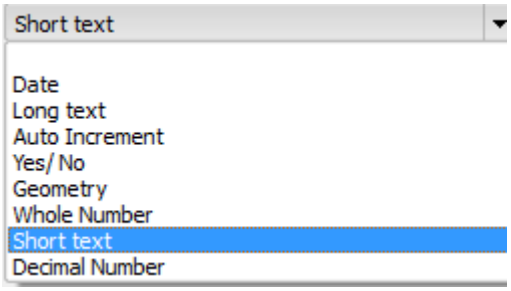
1. Select the table you want to add columns.

2. Pre-defined columns will appear on the column editor panel

Click the button to popup the add column dialog.



- Enter column name I.e last name
- Enter Description: I.e party's last name
- Select data type (Type of data expected for the new column)
- if text: short text is required
- if attribute data is to be given as integer or numeric, you need to select whole number
- See supported data types



- Enter the maximum character length expected for words or names to be given. By default its given as 50.

(Note, this option is disabled for all the other data types.)

7. Click **OK** to save and dismiss the dialog.

To add a new column, click the button again. (remember to check the table for which new columns are defined)

Mandatory fields while adding a column:**Column name, column data type, length,** the rest are optional

Auto Increment is option and this is not a requirement as STDM creates by default when a new table is created.

Is mandatory field depends on whether this field should not be none. Set to Yes if it cannot be empty or None.

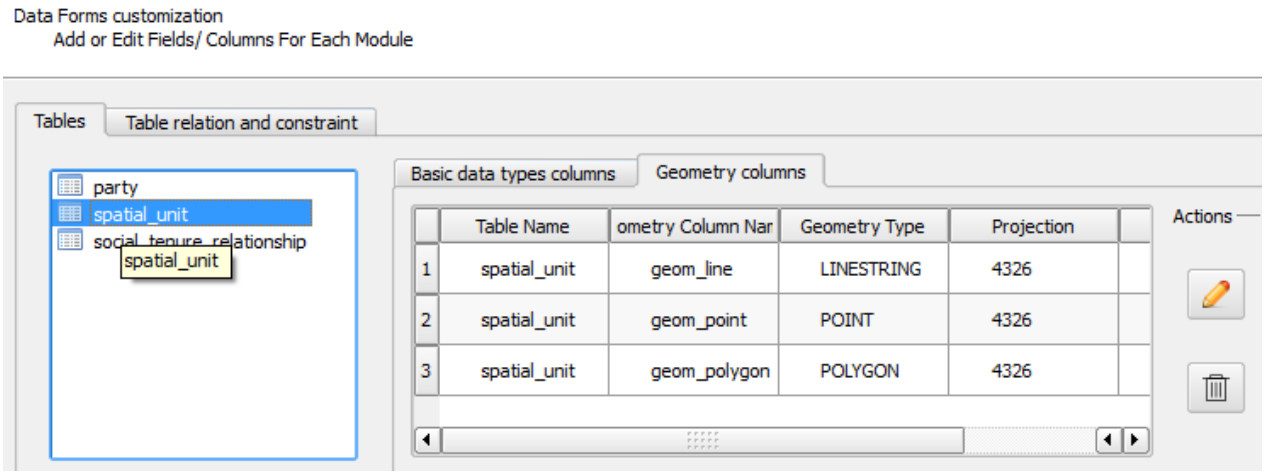
Field is a list is option. For instance, if the user is expected to select the choices from the pre-defined list saved in a given table.By default STDM has a default look up table with predefined list. You can select a list from the lookup table or define additional lookups if not include.

Default value. This is the place holder text that will be given if the user does not specify any data for the column.

Geometry Columns

Geometry columns are defined in a similar way to normal columns apart from the fact that you are supposed to select **geometry** for data type

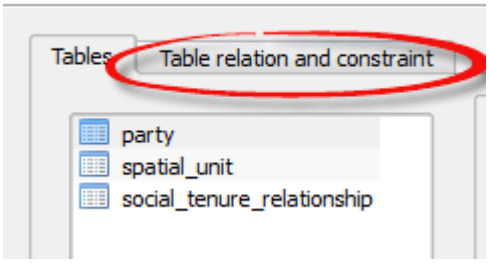
Geometry columns are not displayed together with the textual columns but in a separate tab as shown.



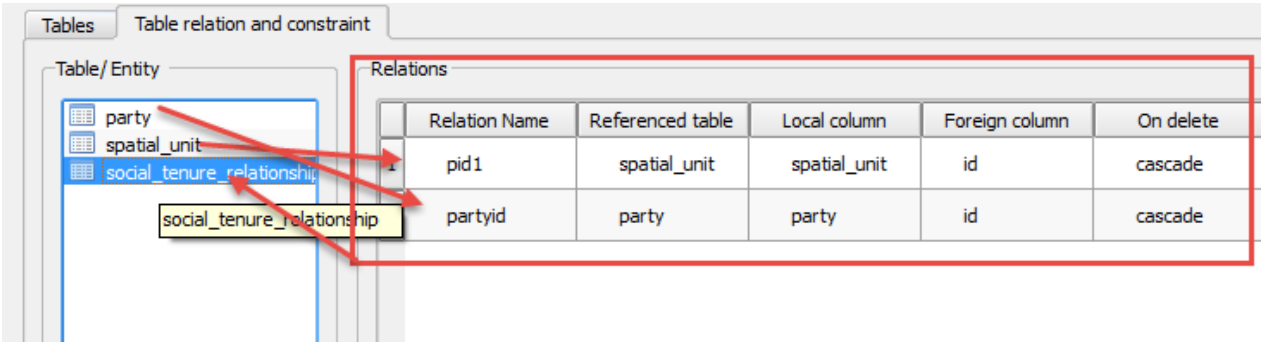
Geometry columns can only be added in spatial unit table of the basic profile. Additional tables can be created to accepted geometry data.

1. To add a new column geometry column, follow the steps provided here

Creating table relations (child to parent table constrains)

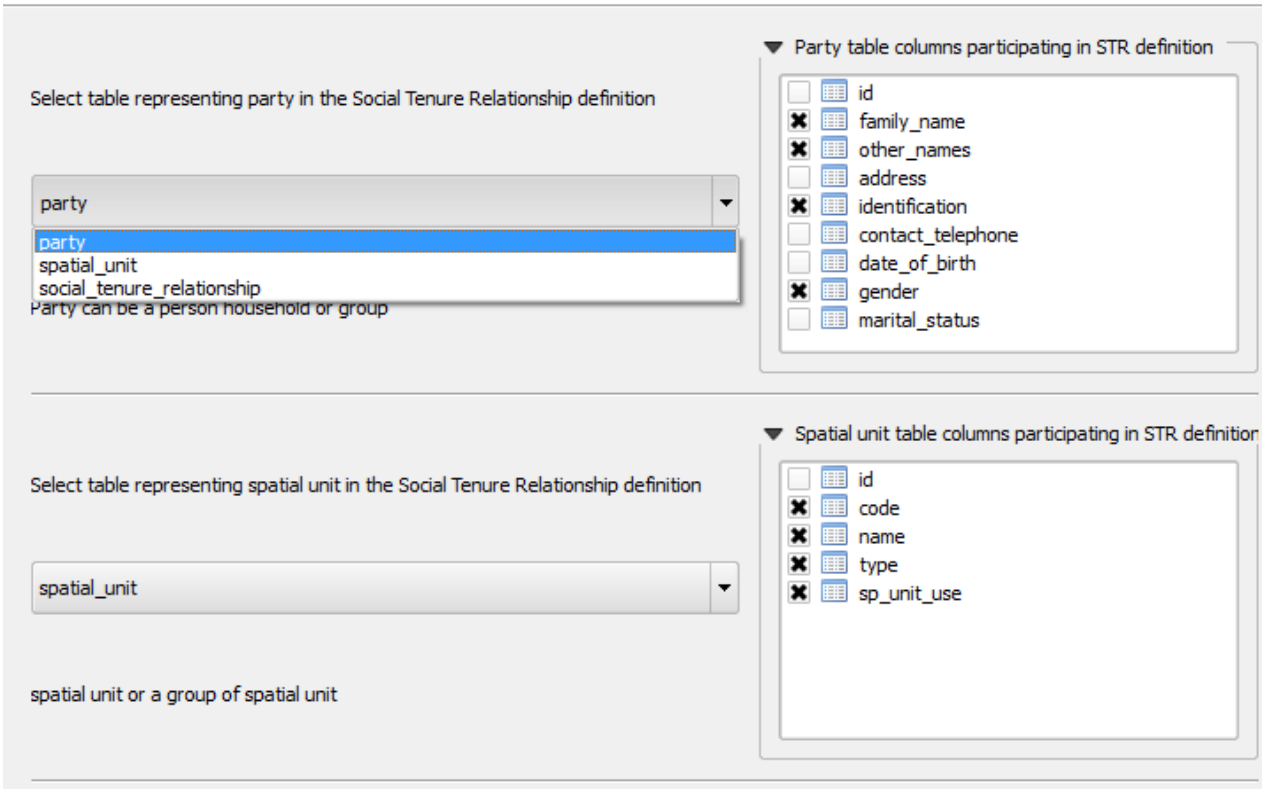


By default, only the social tenure relationship table has relationship defined to core tables.



To create a new relation, go to working with foreign keys here

Selecting social tenure relations tables



You are required to select the table to represent party in your str definition. Possible columns to focus on the social tenure relation (str) can also be checked on the selected table columns to the right.

You are also required to select spatial unit table to represent spatial unit entity in str definition. Columns can also be selected.

The selected columns are just default columns and can always be checked or unchecked.

Social tenure relation table cannot be selected for either of the party.

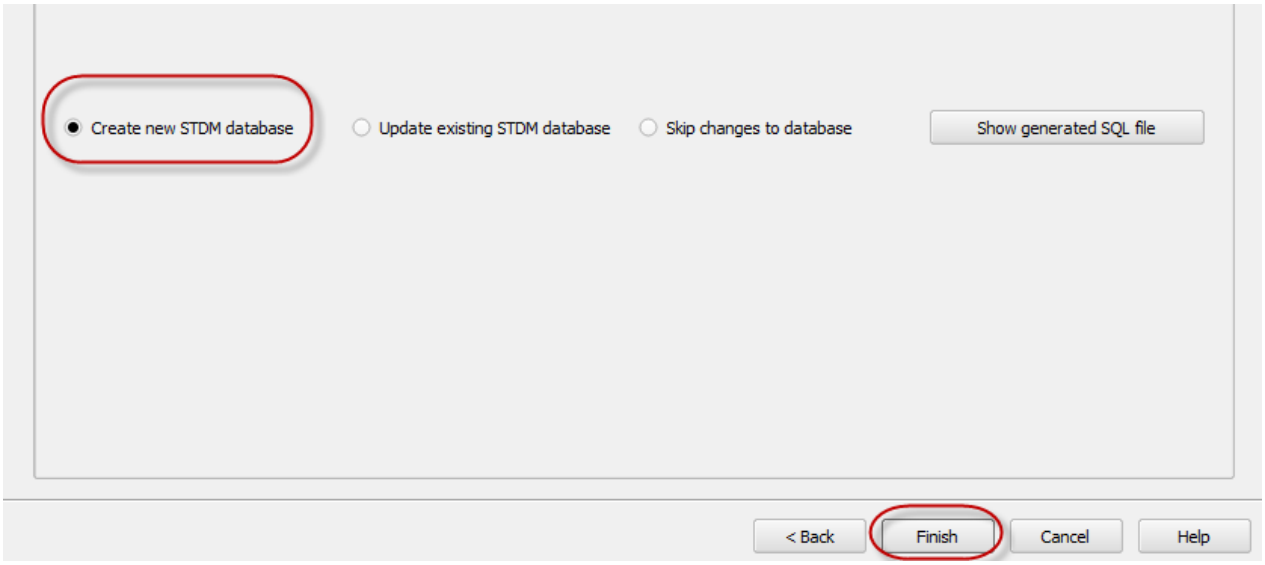
The representation above may give the impression that only one str is possible at a time. (Nope).

Multiple str definition can be created using foreign key references to the core tables in your str definition. The links to additional tables is then completed by creating custom views to various tables. The views are accessible on the STDM reporting functions.

On the last page. For first time Select **Create New STDM database option** to prepare your database with required changes.

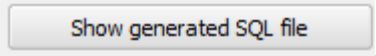
This option clears any data in the existing schema. A prompt dialog will pop up to alert you on the risk of losing any data.

*Click **Yes** to continue.*



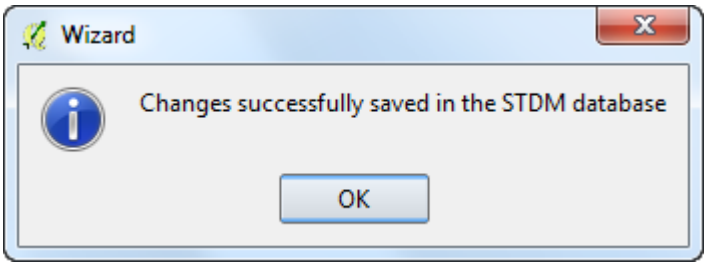
Update existing STDM database is required if you are now configuring for the second time. The initial changes and data will not be lost.

Skip changes to database will skip any changes made.



Allows the user to browse and edit the SQL command generated by configuration if any error has occurred.

Click **Finish** to end configuration.



The above message will appear to inform you that the operation was successful.

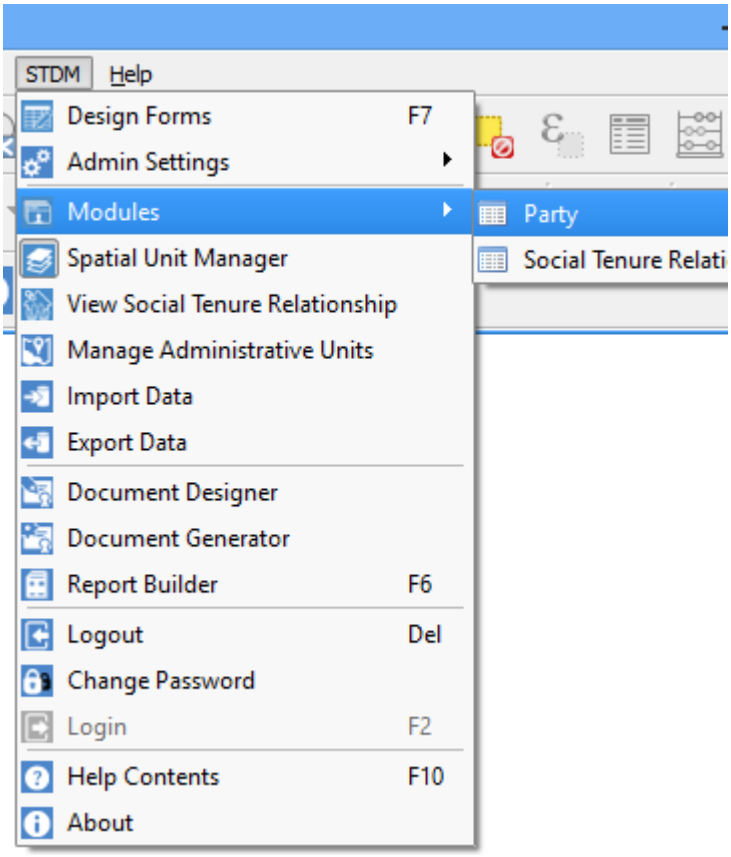
At this level you need to logout.

Log Out.

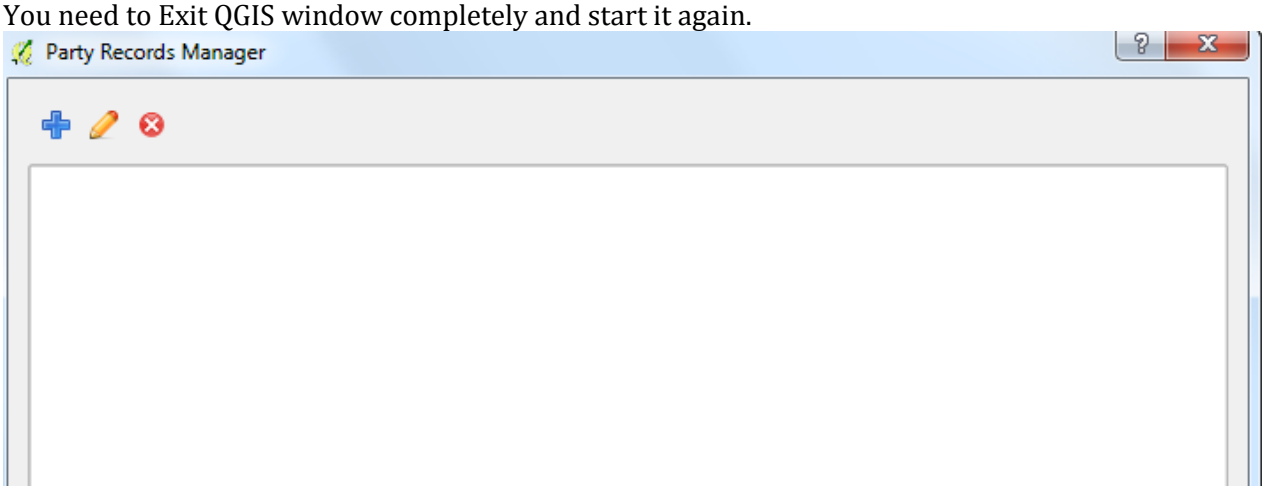
To log out of the QGIS wizard, you must be logged in. Click the logout button . This immediately logs you out of the STDM system and the STDM command buttons disappears.

Then **login again** so that changes can be effective.
To check everything went fine, you need to load any of the modules.

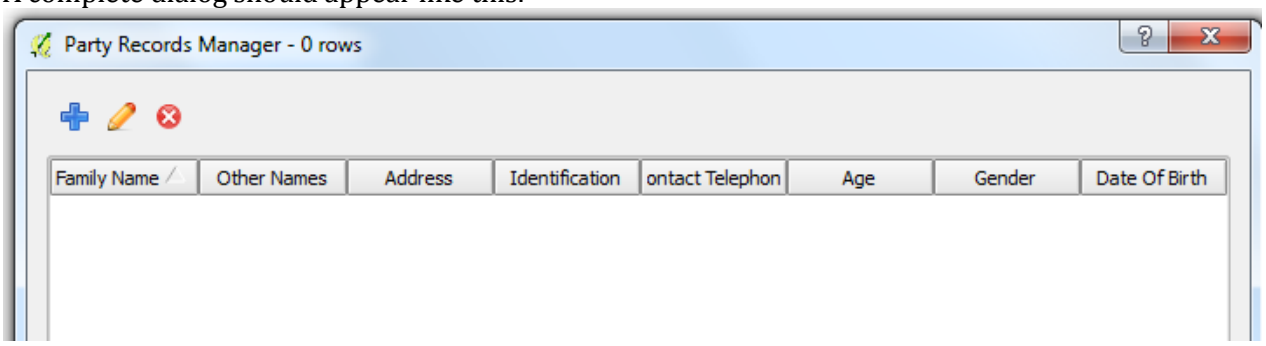
- Go to STDM Menu.
- Select Modules .
- Select Party.



If the **browser form** appears without the column labels, know that changes were not made.
You need to Exit QGIS window completely and start it again.



A complete dialog should appear like this.

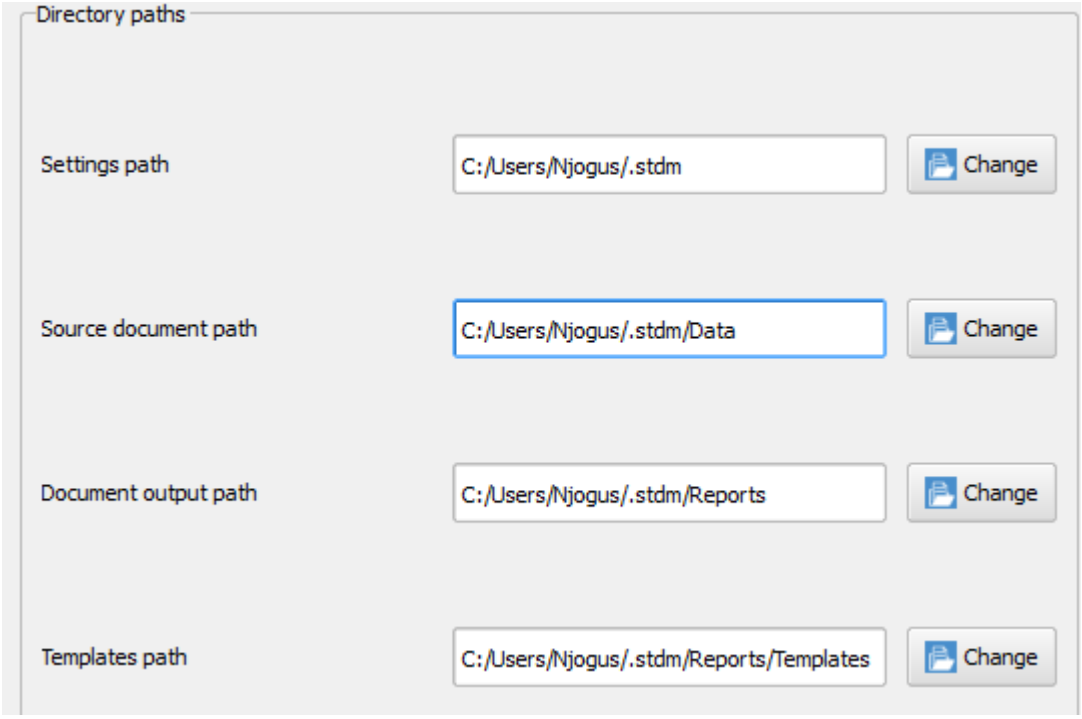


STDM is now configured for use. Proceed to other modules or functions.

3.1.Creating new data profile

1. Login to STDM

2. Start **Design Forms wizard**



3. Click **next** to proceed.

Creating new profile

Profile: *A profile in STDM tool refers to a series of questions to be used in a particular survey in which order of questions and responses is organized in a modular format for easier analysis and presentation within STDM.*

The modules can be understand as tables in the database i.e person details that includes (surname, given names, age, date of birth) would be structured in a module within the survey form and in STDM therefore we would have a person table to record that specific information. See attached sample of questionnaire in the annex for more details

1. The **New Profile** button circled in red below enables you to create a new data profile. The user is prompted to provide a profile name and a profile description in the profile editor dialog. *An example would be;*

***Profile Name**: Settlement profile.*

***Description**: A complete community inventory*

By default the basic profile is populated.

Learn more about Data forms here:

Creating new profile

Creating tables attributes

Creating Table relations

Defining Social Tenure tables

3.1.1. Creating file paths

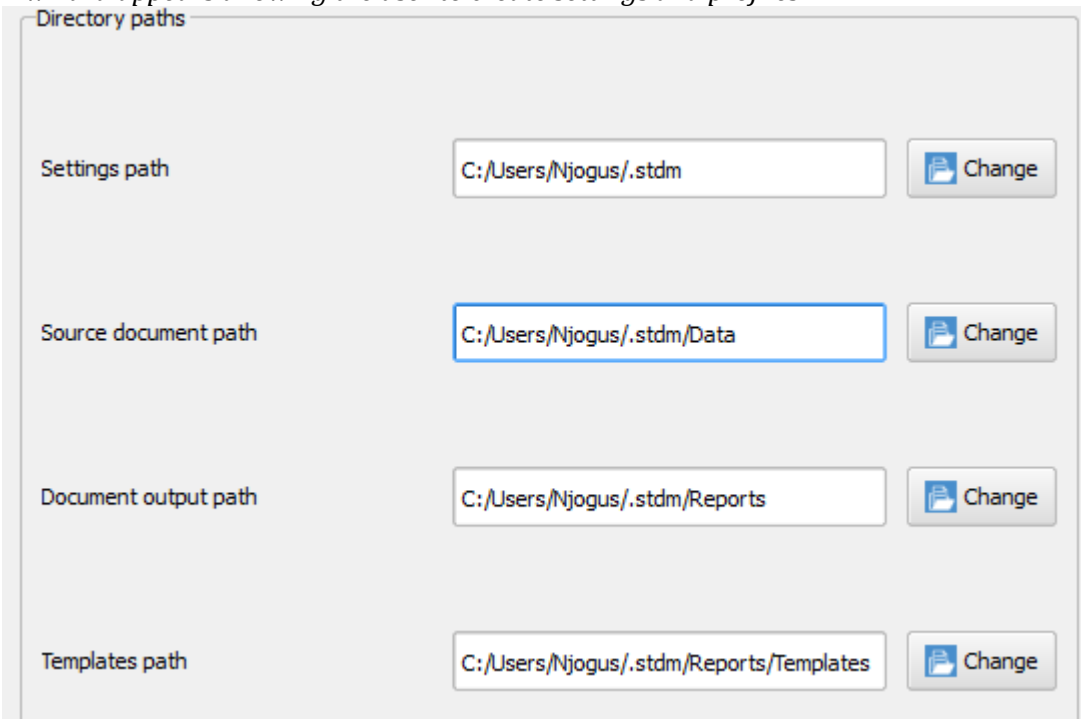
When creating new paths in the configuration wizard, if in the new paths there exist a configuration file, an alert message will show to inform you that previous settings have been detected.

Log in

1. Log in to the STDM Using the button.

2. Click the **Design Forms** button to open the Design Form wizard.

A wizard appears allowing the user to create settings and profiles.



In this opened Design Form wizard page, the user can now create new four highlighted paths above.

When this form is loading, it checks for previous paths that the user had set. If none is found, a default path in the user profile directory will be created and populated as shown above.

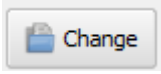
Settings path: where the user config file will be stored for access in the local computer or network

By selecting settings path, the other paths will be loaded automatically pointing to the settings path. This can also be changed.

Source document path: this refers to location where supporting documents will be saved.

Document output path: Set this path where stdm will store all output documents.

Templates path: Set this path where stdm will store all design templates for document generation.

1. Click on the **Change** 

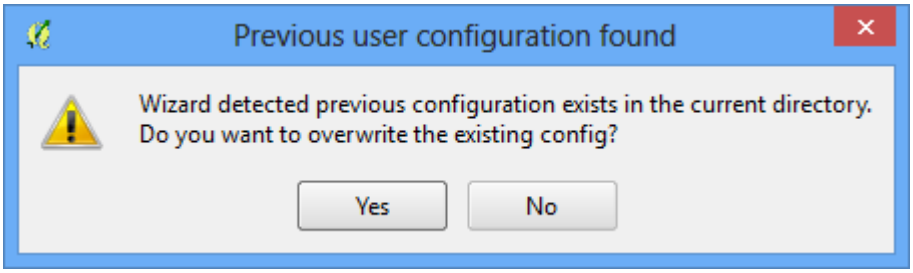
Button.

A file open dialog will pop up allowing you select the new location to save your files.

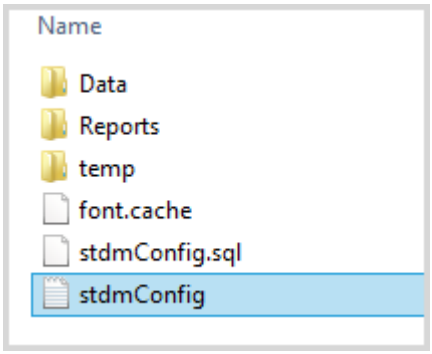
1. Choose the new directory source and destination file of your workings.
2. Click **Choose** to proceed.

The new path is already set and user can proceed to setting other paths. The other paths are also populated by default.

If there is an existing config in the selected directory, a warning message will be given to alert you if you need to overwrite or keep the current one.


Previous user configuration found
Wizard detected previous configuration exists in the current directory.
Do you want to overwrite the existing config?
Yes
No

By selecting yes, the system will match the version of the two config and the latest will be updated. Selecting **No** will not affect your previous settings and they will be used in the rest of configuration process.
If all the paths were set in one directory, the following files and folders will be created. The mandatory file here is the stdmConfig.xml. The rest can be created at run time.



Click next on the wizard and the on entry to the next page all the settings will be saved in the registry. If no further configuration is required, the wizard can be closed.

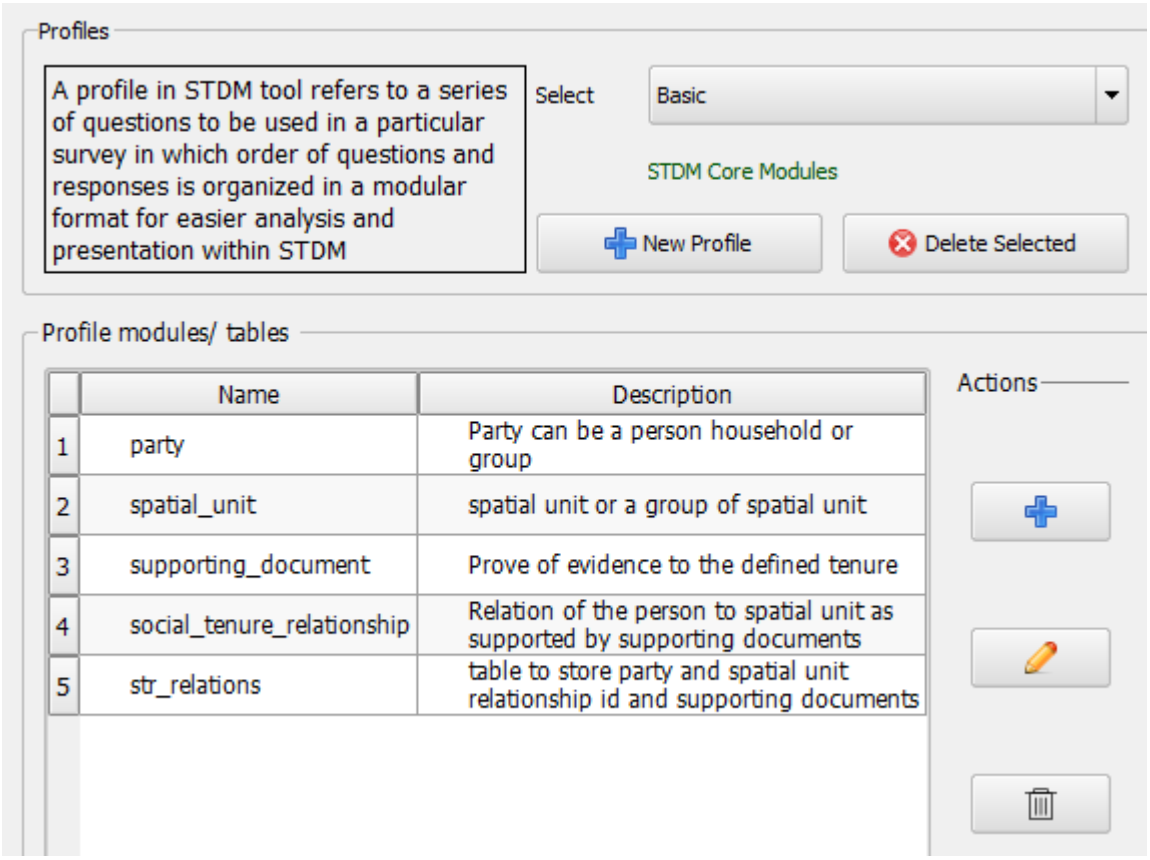
3.1.2. Creating profile and tables

When creating Profile and Tables, the Design Form wizard is used.

1. Click on the **Design Form** button.

A path setting configuration table appears.

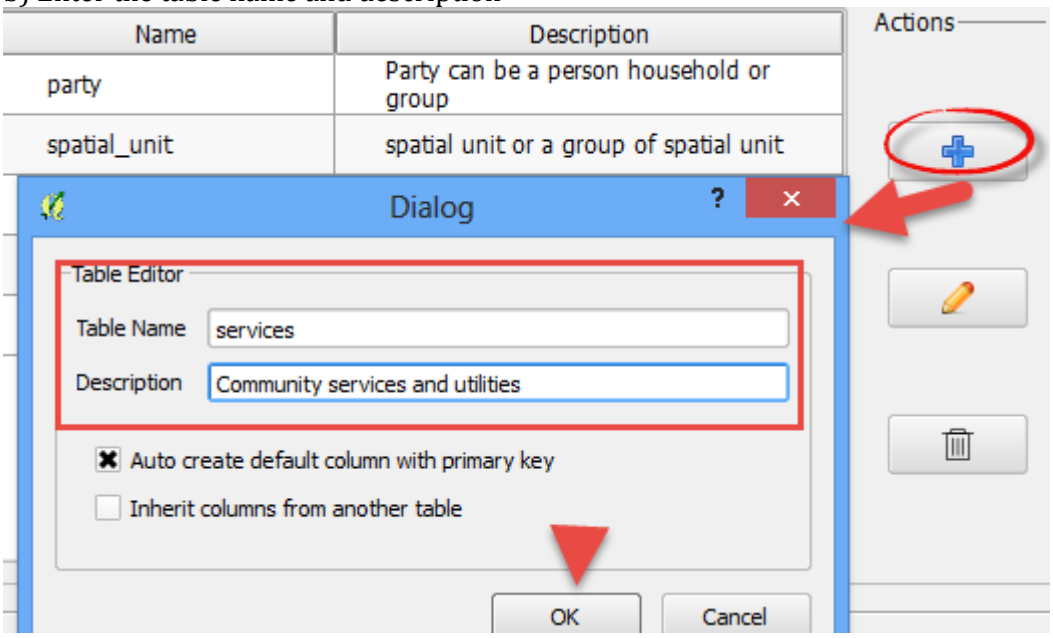
2. Click **Next** to continue


Profiles
A profile in STDM tool refers to a series of questions to be used in a particular survey in which order of questions and responses is organized in a modular format for easier analysis and presentation within STDM
Select
Basic
STDM Core Modules
New Profile
Delete Selected
Profile modules/ tables
Name
Description
Actions
1 party
Party can be a person household or group
2 spatial_unit
spatial unit or a group of spatial unit
3 supporting_document
Prove of evidence to the defined tenure
4 social_tenure_relationship
Relation of the person to spatial unit as supported by supporting documents
5 str_relations
table to store party and spatial unit relationship id and supporting documents

A profile option wizard opens with default settings.
To create new tables in the current profile. The user needs to click on the Add button in the profile modules/ tables sections.

3 Creating additional tables to the default profile.

a) Click the Add button. A new form appears.
b) Enter the table name and description

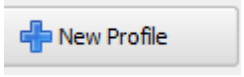


Ensure **Auto create default column with primary key** is checked.

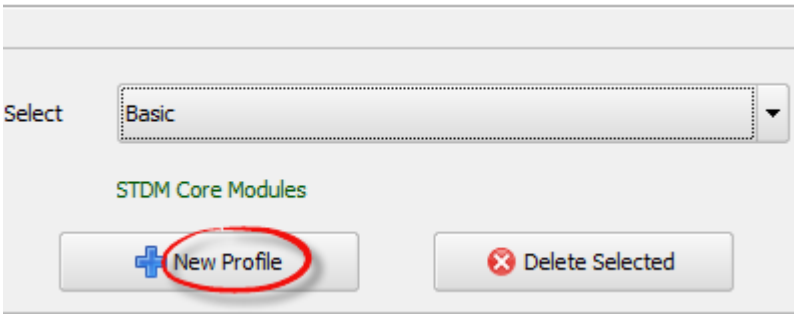
Check Inherit columns from another table if you would like to fetch columns from another table with similar properties. The table must be within the same profile.

c) Click **OK** to create a table. Additional tables can be created in the same way.

4. Creating new profile and tables

a) Click 

button.



A profile editor appears allowing you to create a profile name;

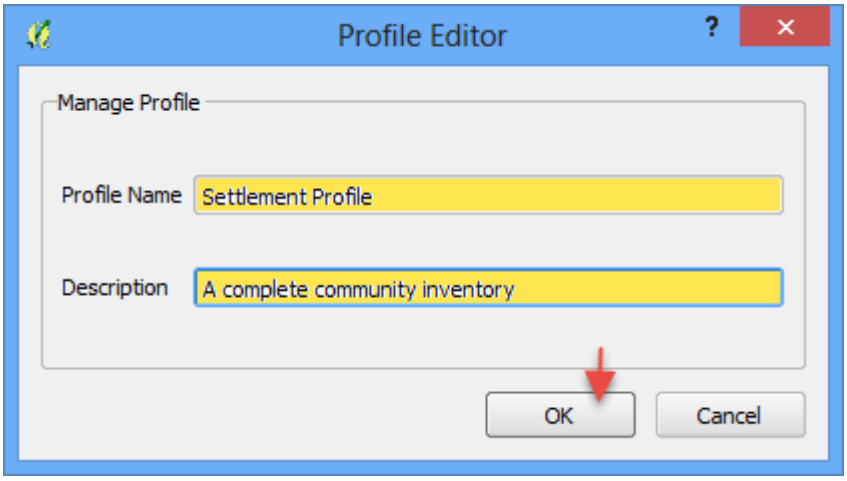
b) Input the;

- Profile Name - type the profile name that you wish for your project
- Description - give a small description to give a meaning to the profile name

An example would be;

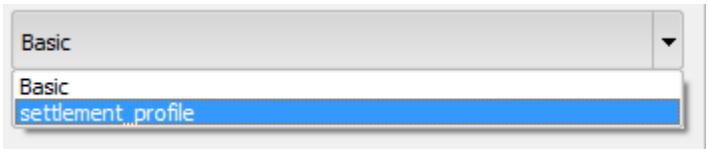
Profile Name: Settlement profile.

Description: A complete community inventory



c) Click Ok to dismiss the dialog

d) Select the created profile name to enable table creation by clicking on the drop down arrow of the combo box.

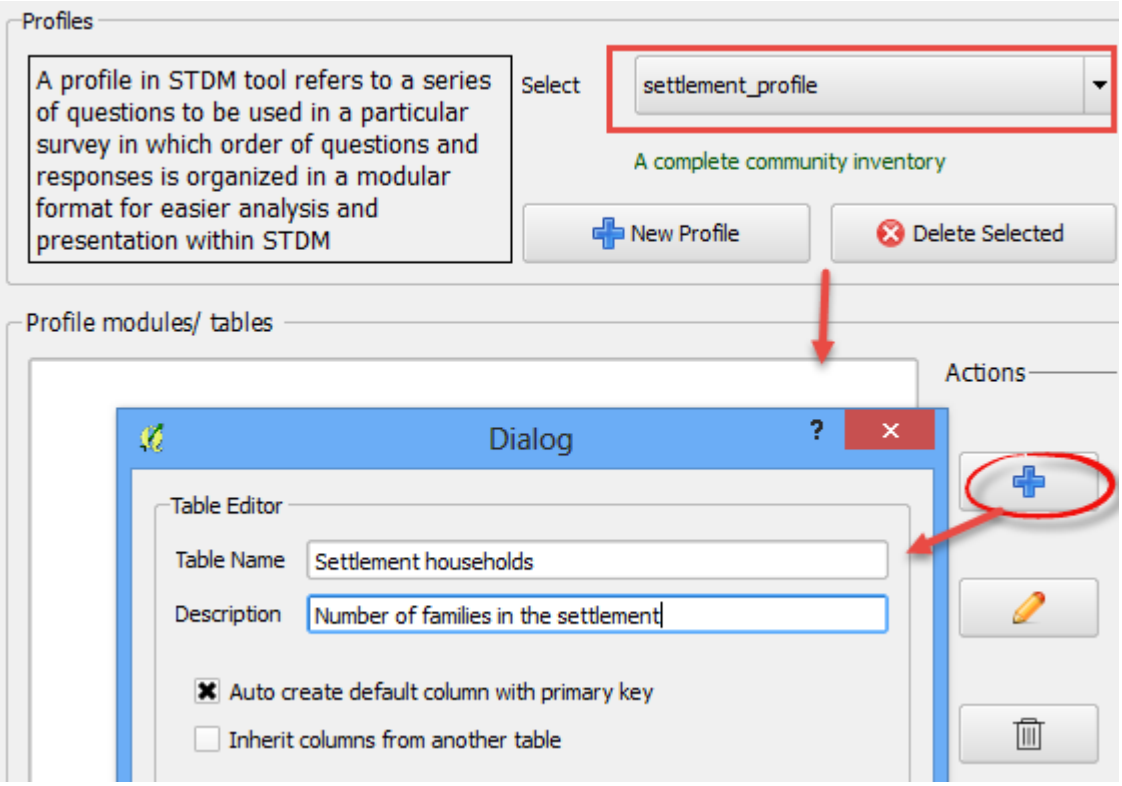


e) The table/ module view area is empty as you have not defined any module or table.

The button in the module section to prompt you to input the table name and the table description. This information will provide a basis upon which columns for the table will be created.

For purposes of the example provided above;

Table Name: Settlement households Description: Number of families in the settlement

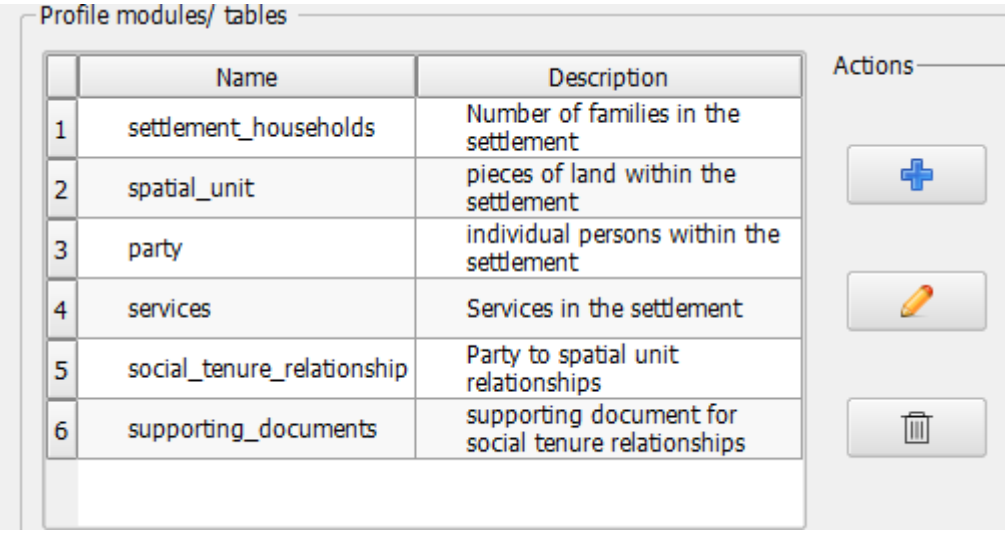

Profiles
A profile in STDM tool refers to a series of questions to be used in a particular survey in which order of questions and responses is organized in a modular format for easier analysis and presentation within STDM
Select
settlement_profile
A complete community inventory
New Profile
Delete Selected
Profile modules/ tables
Actions
Dialog
Table Editor
Table Name
Settlement households
Description
Number of families in the settlement
Auto create default column with primary key
Inherit columns from another table

Ensure **Auto create default column with primary key** is checked.

Check Inherit columns from another table if you would like to fetch columns from another table with similar properties. The table must be within the same profile.

Click **OK** to create a table

Additional tables can be added in the same manner as above.



	Name	Description
1	settlement_households	Number of families in the settlement
2	spatial_unit	pieces of land within the settlement
3	party	individual persons within the settlement
4	services	Services in the settlement
5	social_tenure_relationship	Party to spatial unit relationships
6	supporting_documents	supporting document for social tenure relationships

Allows you to edit the created tables names and descriptions

Delete button allows you to delete the selected table.

Adding a secondary or subsequent table provides the user with an option of importing columns from an already created table if the intended table is to contain columns that are similar to the existing table. This avoids repetition when creating tables. To do this check inherit columns from another table and select the source table in the combox box.

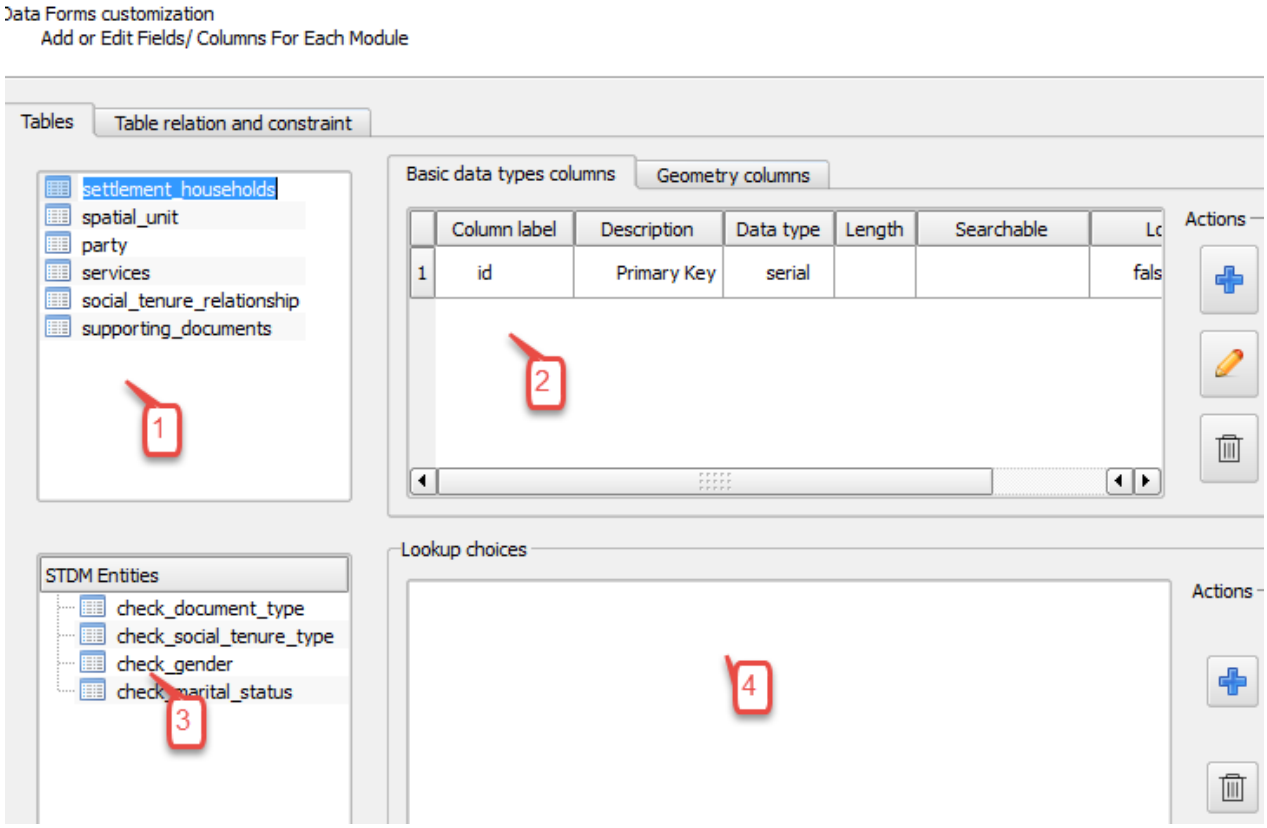
3.1.3. Creating table attributes

Table Attributes are the columns that will be created in the database to record information that will be entered in the form.
When creating table attributes, the column text should be as short possible as this text shall appear on the data entry form.

To create tables attribute, the Design Form wizard is used.

1. Click on the **Design Form** button.

A path setting configuration table appears.
2. Click **Next** to continue
3. Click **Next** on the profile and tables page
4. Click **Next** button to get you to Data forms customization.
You should be here.



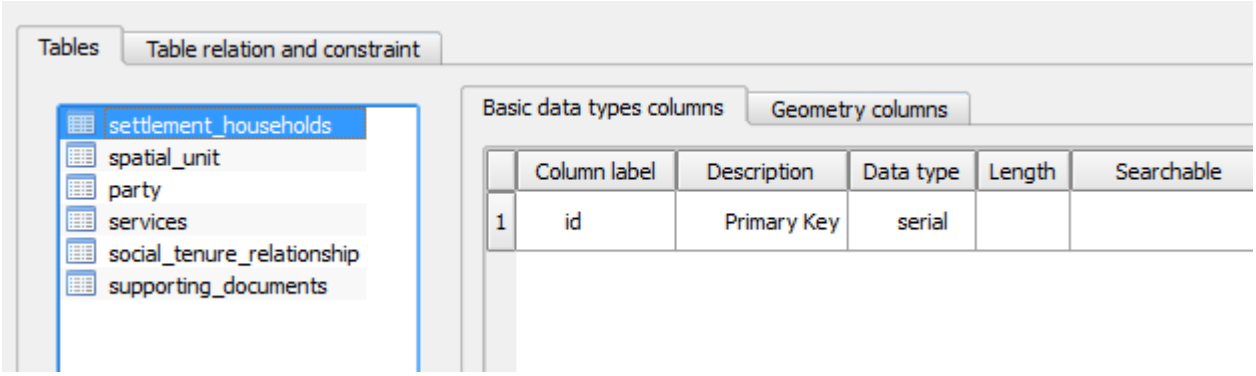
Creating table attributes

When creating table attributes, the user will deal with the first and the second section. On the first section, the user will choose the table to which columns will be added and in the second section, the user will add and view new attributes of the table.

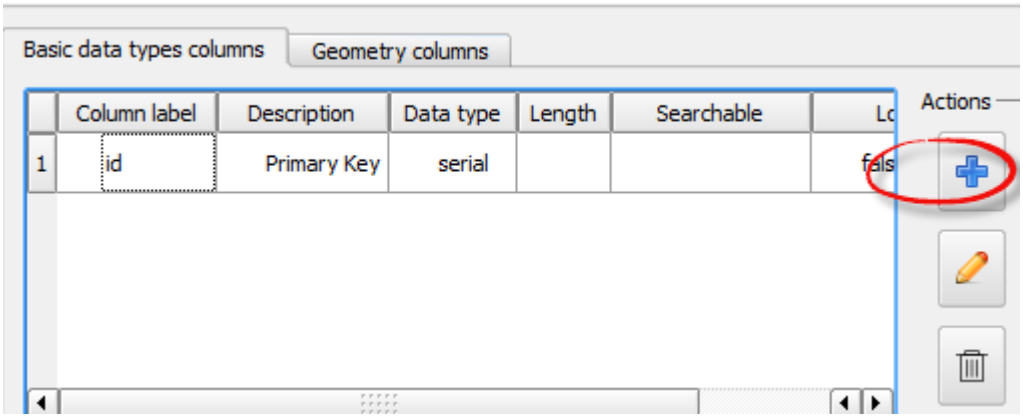
1. Click a module you want to Add attributes. For Example, the settlement_household module.

A row appears on the second section where added attributes will be shown.

The id row is created by default when you create a table and should not be deleted(Primary Key column)

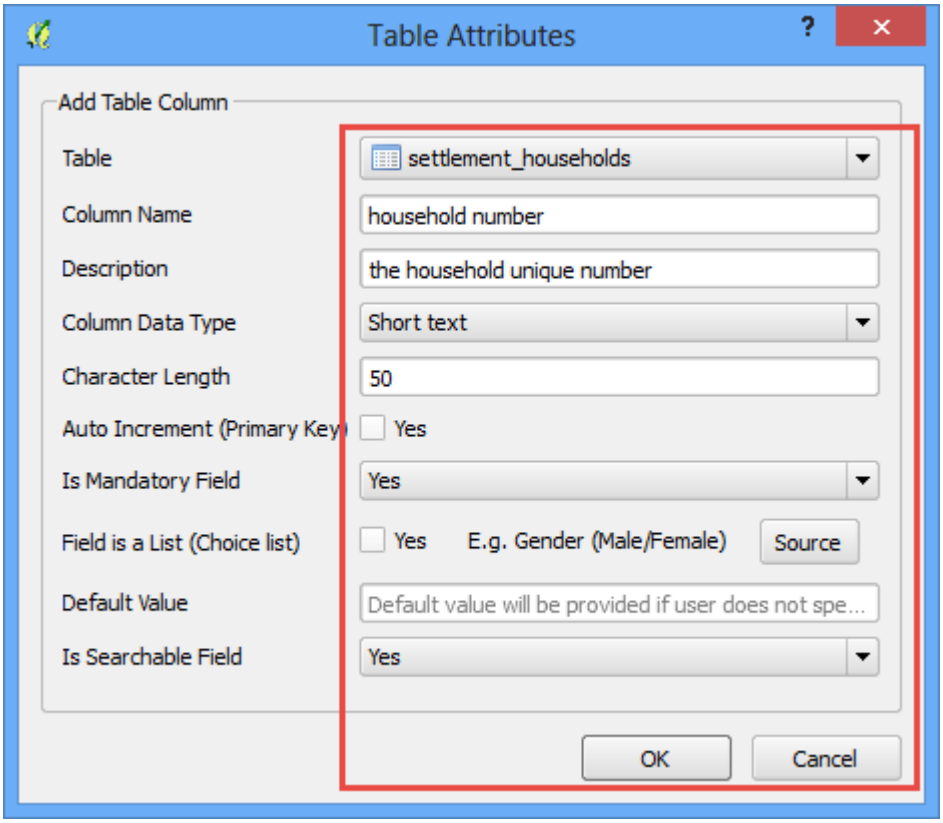


2. Click the Add button to add a new attribute



Attribute editor appears as shown below for editing

3) Provide details of the on the form as follows



Table; Refers to the currently selected table in which the attributes are being created.

Column name is the attribute name for the column in the database. Should be as short as possible.

Description: Friendly name description the attribute name.

Column data type: this is the data type of the attribute being created.

Character length: This refers to the longest expected length of the attribute when data is being entered in the form.

Auto Increment: This applies to primary key

Is Mandatory Field: Check this if the attribute cannot be none.

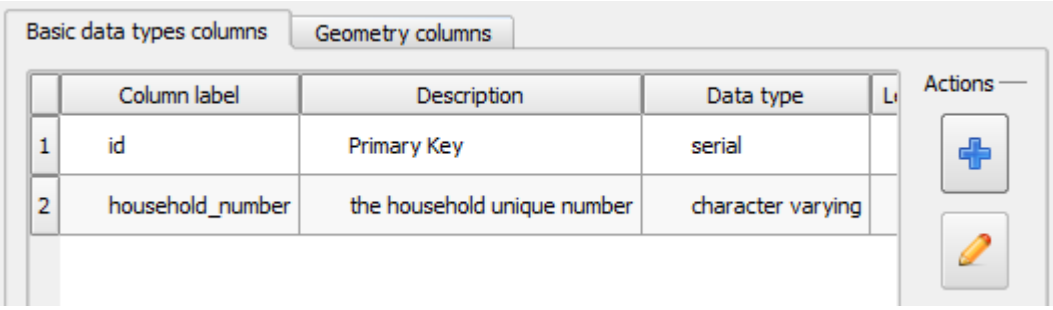
Field is a List: This enables you to select a pre-defined choices or to create a list of choices where attribute value will be selected. E.g. attribute gender may have an option of [male/ female]. This is a list and can be defined in the wizard.

Default value: this applies to the default value to be used if the user does not provide any text on the form.

Is Searchable Field: this allows you to activate the attribute field on the form as a possible search field for filtering the data on the entity browser.

4. Click **OK** to create the new attribute.

5. The new attribute is created and appears as shown below.



You have the option of **adding** as many attributes as required, **edit** or **delete** the attributes by use of the

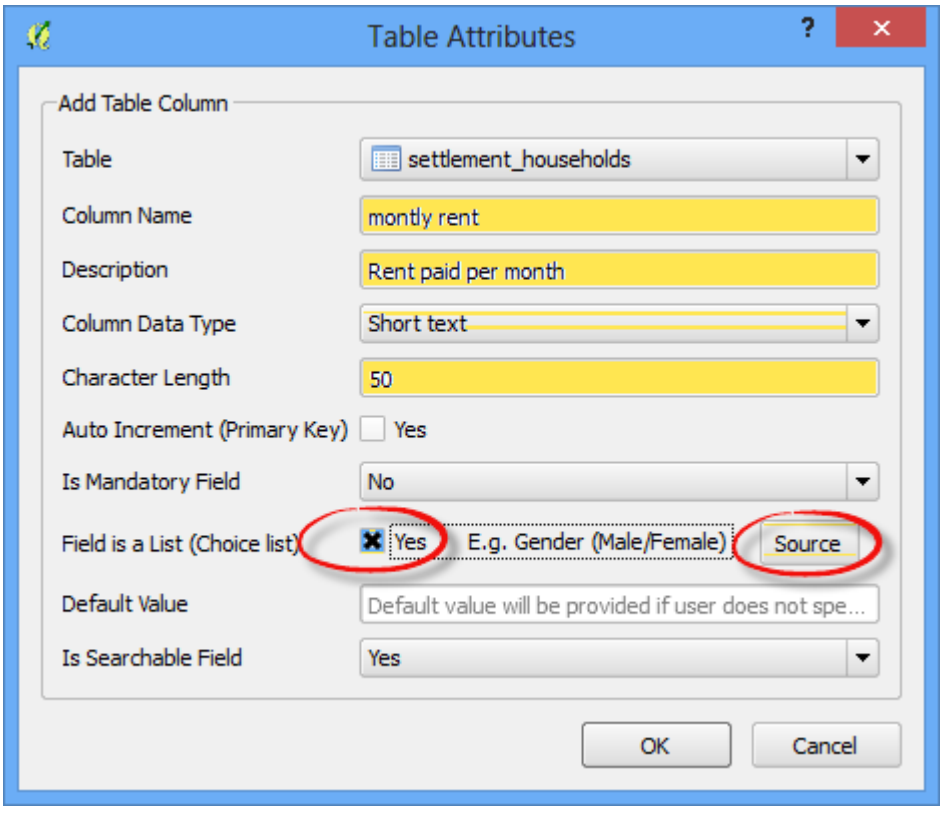
Edit button.

Delete button. For you to delete an attribute, the table and column must be selected.

Adding a field with lookup option.

1. Click to add a new column.

2. Enter the the column properties on the attribute editor dialog.

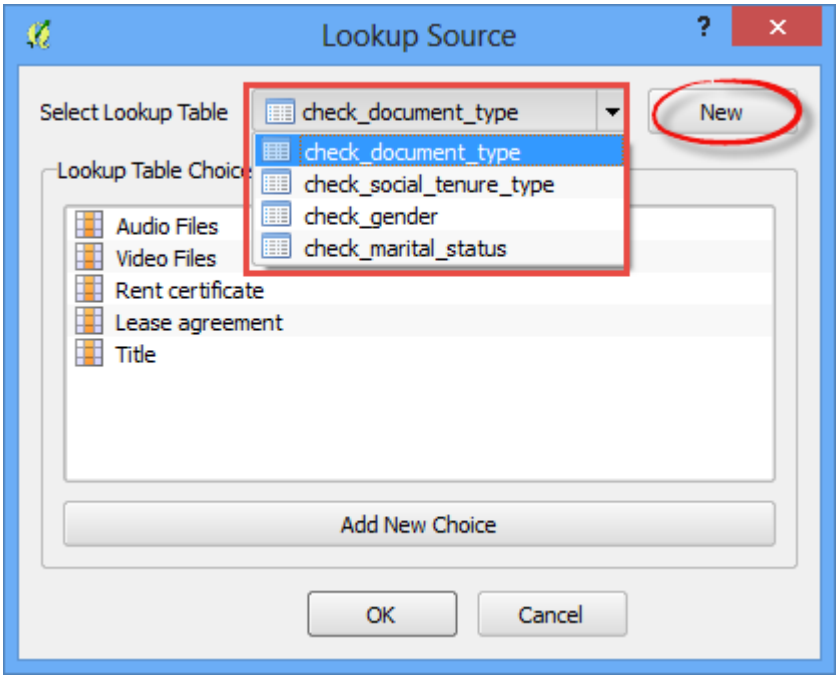


On Field is a list, select yes.

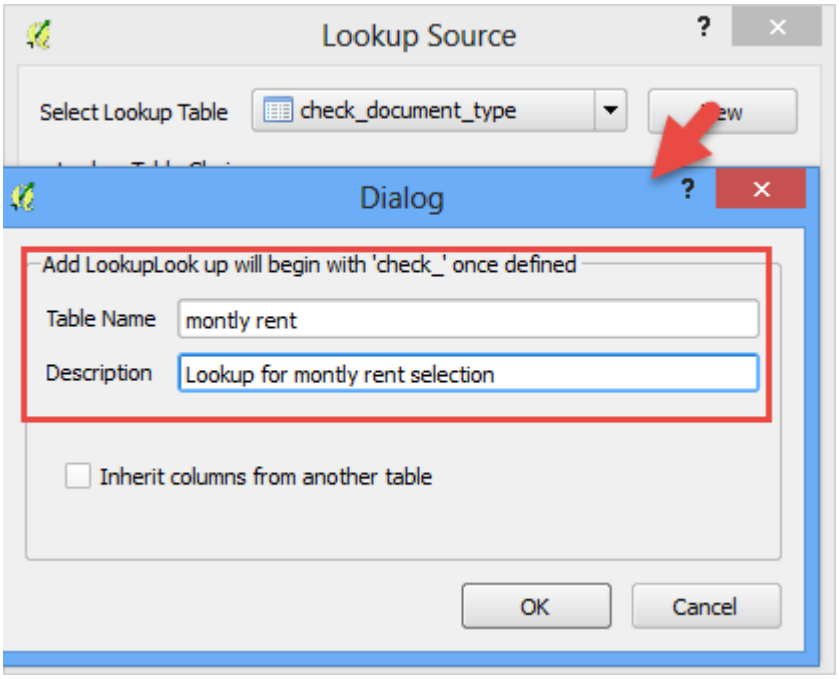
3. Click **Source** button

4. On the Look up dialog, check if the desired lookup exist and select it and then click ok.

If not, click New.



5. A new Lookup dialog appears.

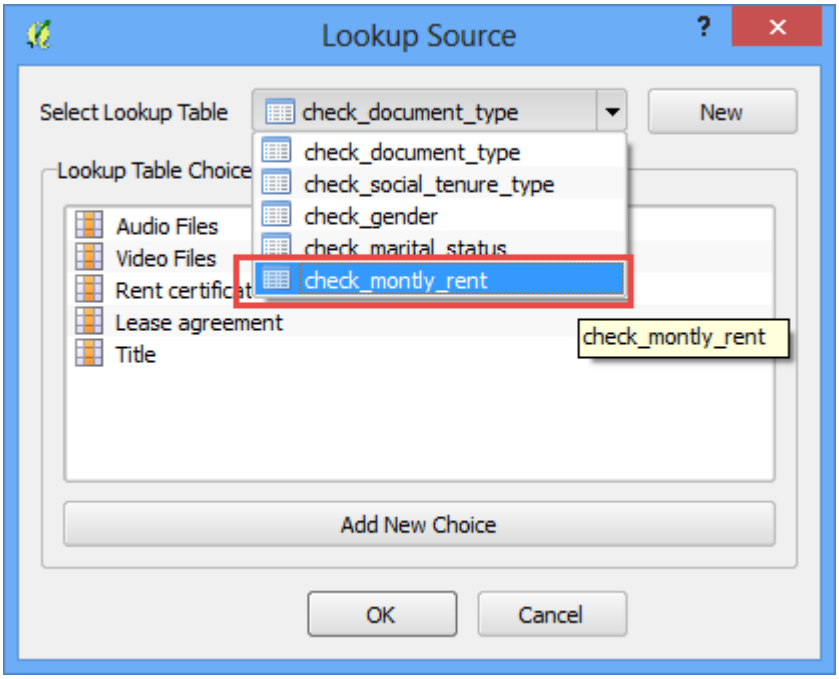


6. Enter lookup table name

7. Add lookup table description

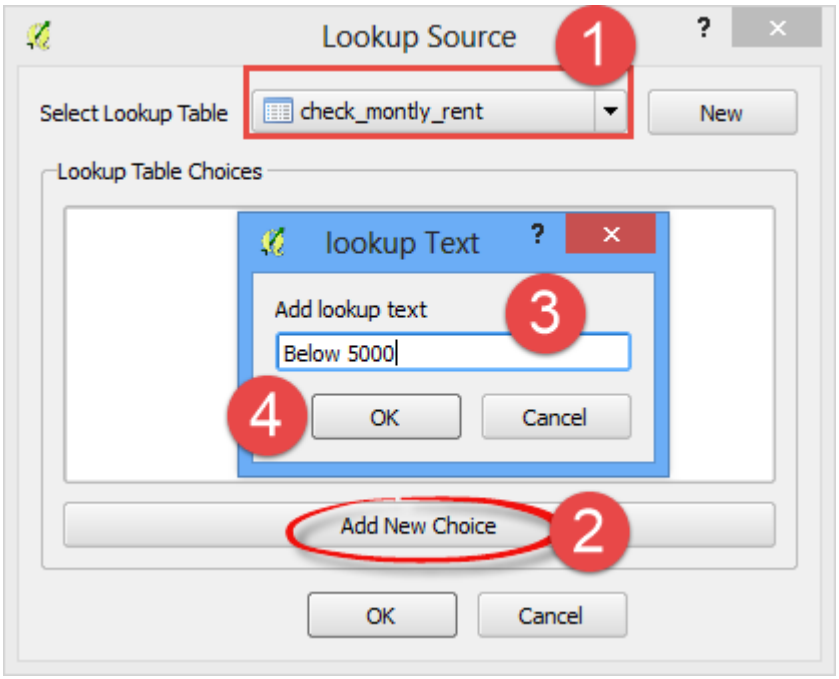
NOTE: do not inherit columns from another table when creating lookup. This is create automatically.

8. Click Ok.



Lookup table is now created.

9. Select the lookup table from the list so that it is now the currently selected lookup. (1)

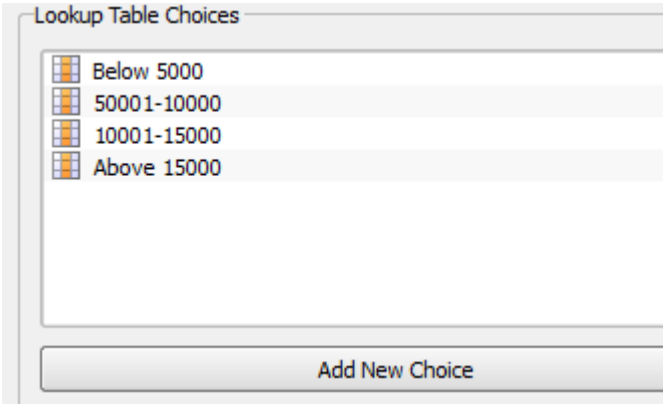


10) Click Add New Choice (2)

11) On the Lookup Text box, enter lookup text (3)

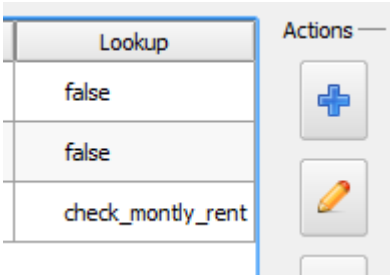
12) Click Ok to dismiss the Lookup Text box.(4)

13) Click Add New Choice again to add more.



14) When done with choices click OK to dismiss the Lookup dialog.

15) Click Ok to save the new column.

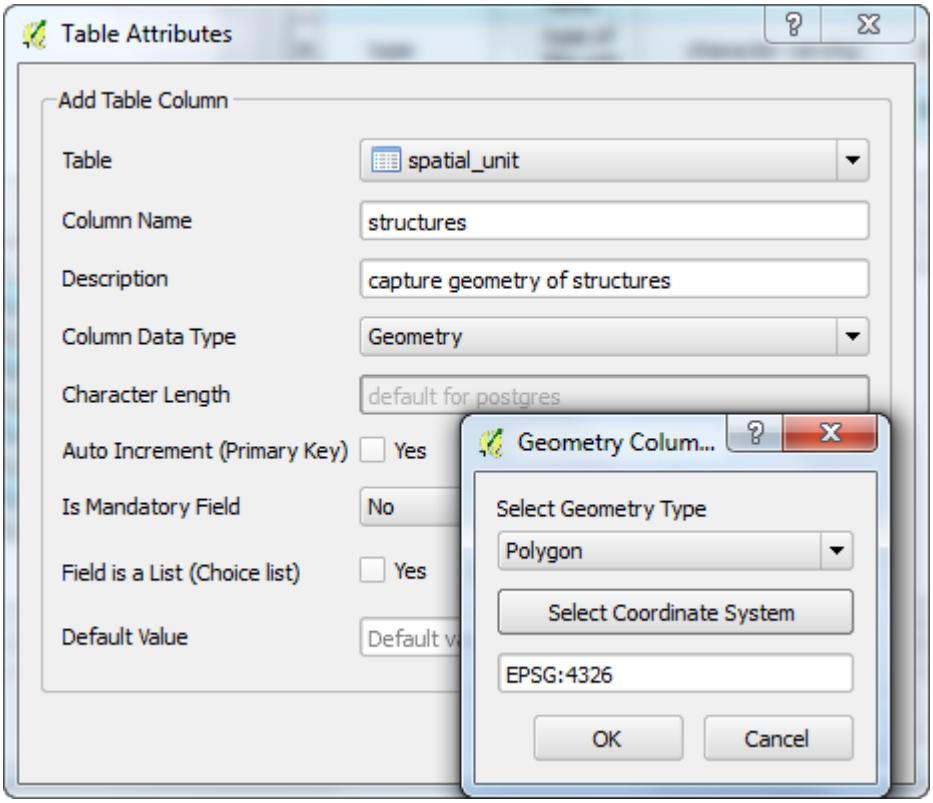


Lookup option will be added in the column lookup field.

Adding geometry columns

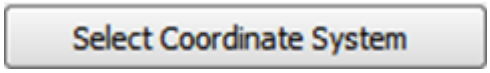
Geometry columns can only be added in spatial unit table of the basic profile. Additional tables can be created to accepted geometry data.

1. To add a new column, click the button
2. Type the column in the column name text box.
3. Enter description in the description column box.
4. Select Geometry from the data type list.

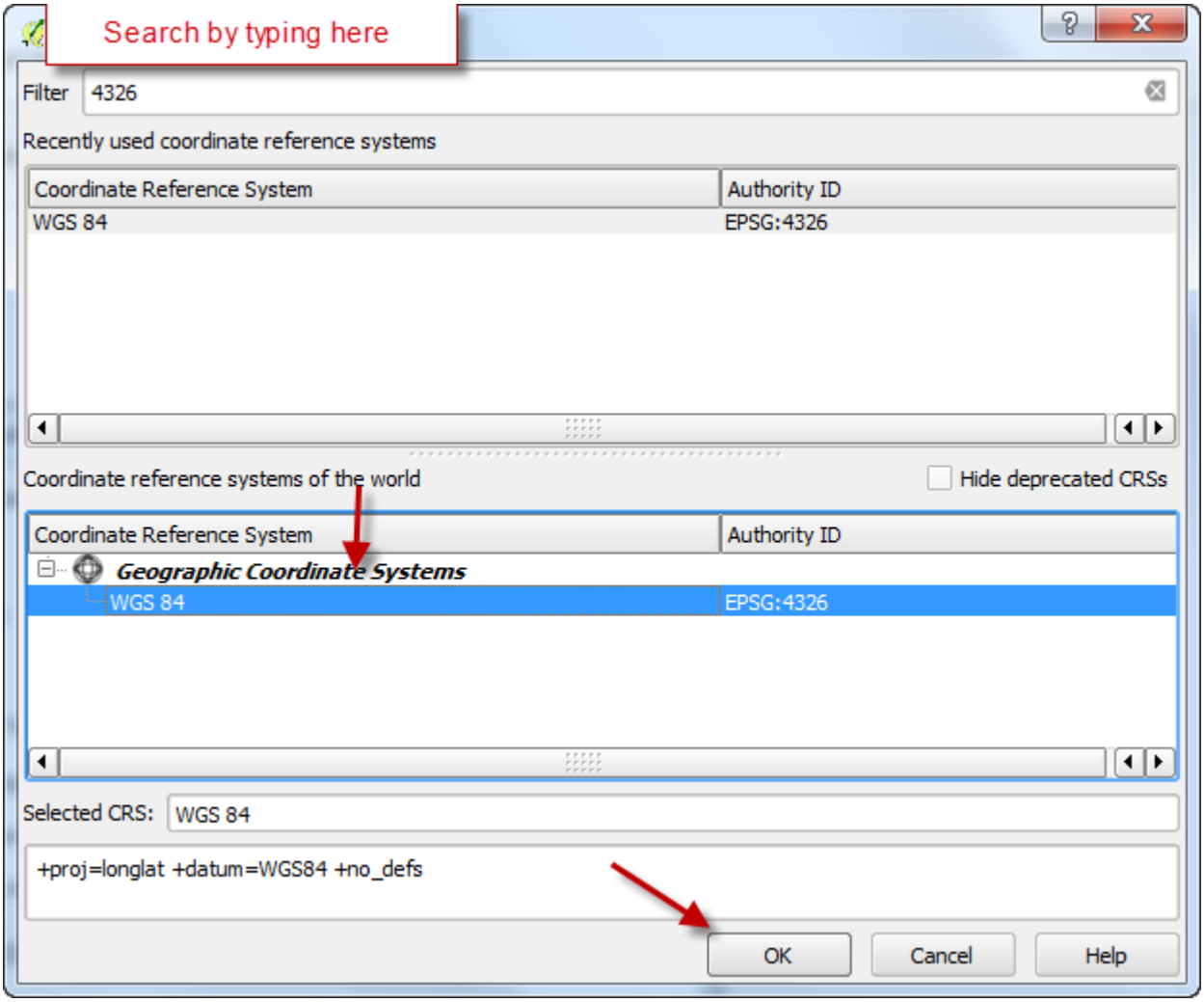


On the pop up window, select geometry type.

- Polygon if expected closed structures and will be marked by three or more points.
- A line if it is a continuous stream of points that do not close.
- Point if only one point is expected.

Click 

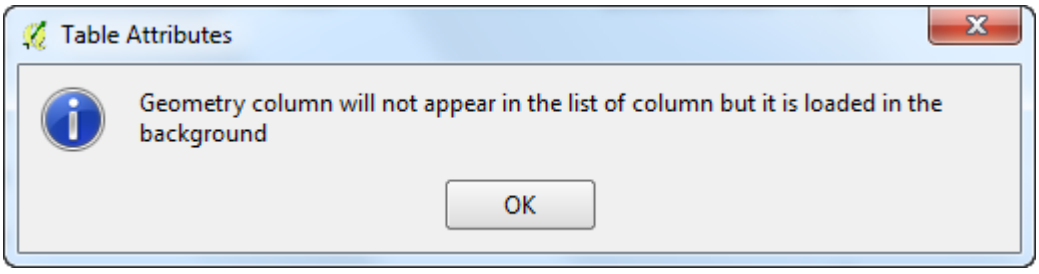
button to select the desired Coordinate System from the coordinate selector. By default WGS 84 is used.



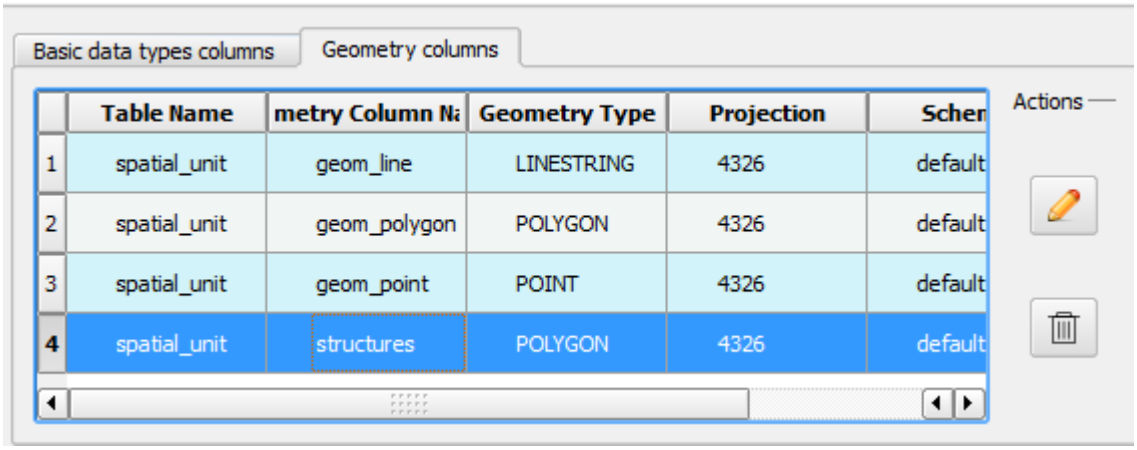
Once selected, only the EPSG code of the selected Coordinate System will appear.

Click **OK**.

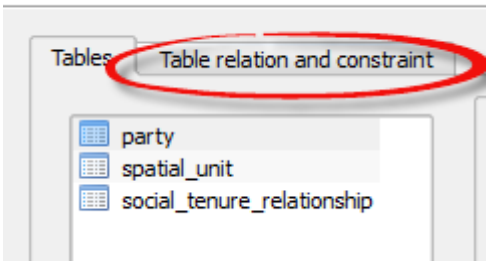
Then Click **Ok**.



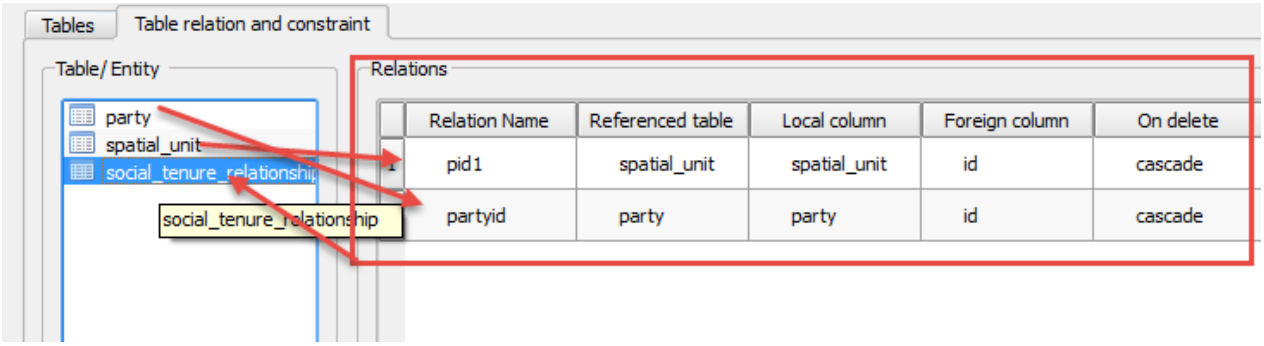
The above message will appear to alert you that the geometry columns are not part of the textual column.



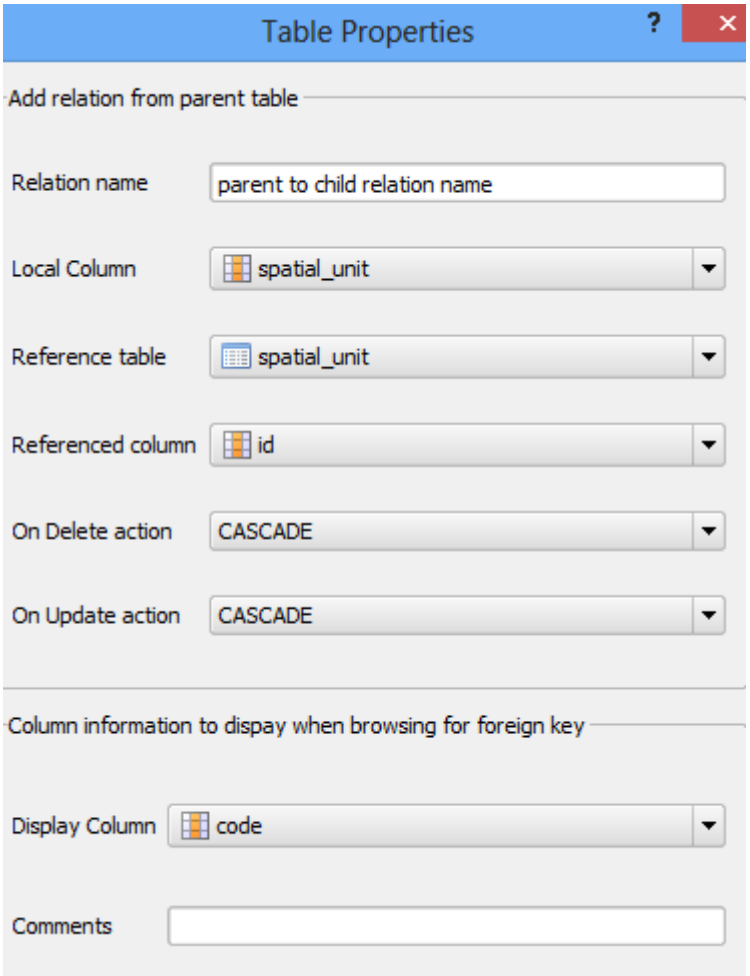
Creating table relations (child to parent table constrains)



By default, on the social tenure relationship table has relationship defined to core tables.



To create a new relation, click on the at the bottom. A new dialog pops up where the relations parameters are defined.



Relation name cannot be empty and can be given as any text. e.g. person household number

Local column refers to column in child table to reference the parent e.g. household number

Reference table refers to parent table e.g. household

Referenced column refers to unique or primary key column reference in the parent table e.g. id or household number.

Click Ok to save new relation.

A relation can be deleted by selecting the particular relation on the list and clicking the delete button at the bottom

3.1.4. Creating Geometry columns

Geometry columns are defined in a similar way to normal columns apart from the fact that you are supposed to select **geometry** for data type

Geometry columns are not displayed together with the textual columns but in a separate tab as shown.

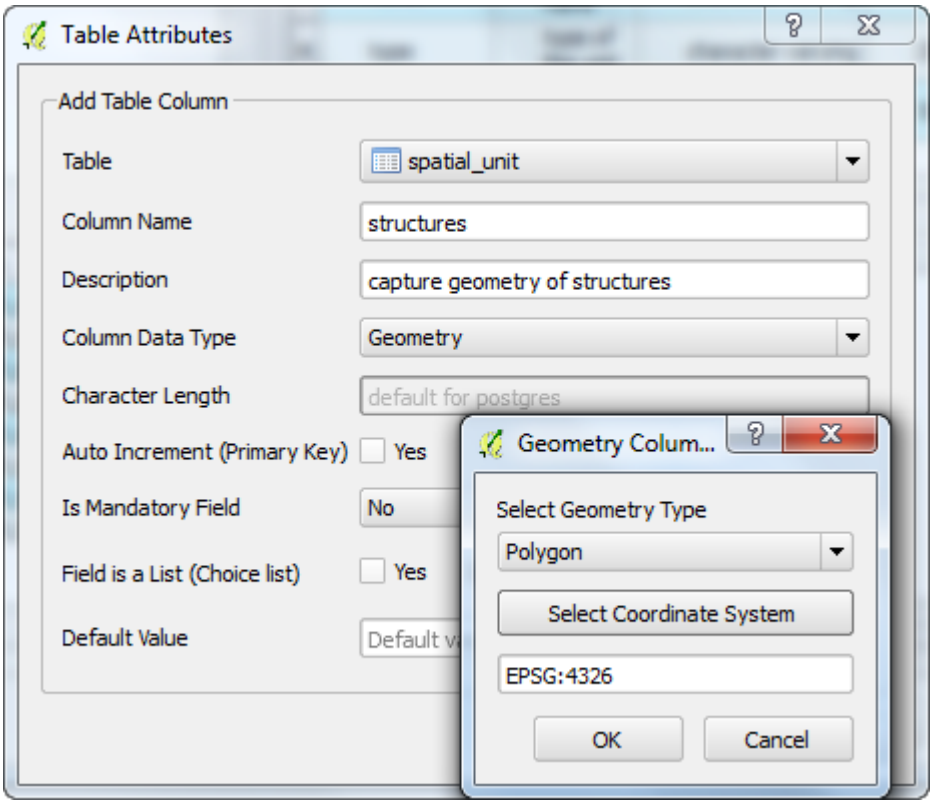
Spatial table should be created to accepted geometry data. By default, the spatial unit table of the basic profile is configured to accept this.

1. To add a new column, click the button

2. Type the column in the column name text box.

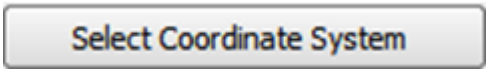
3. Enter description in the description column box.

4. Select Geometry from the data type list.

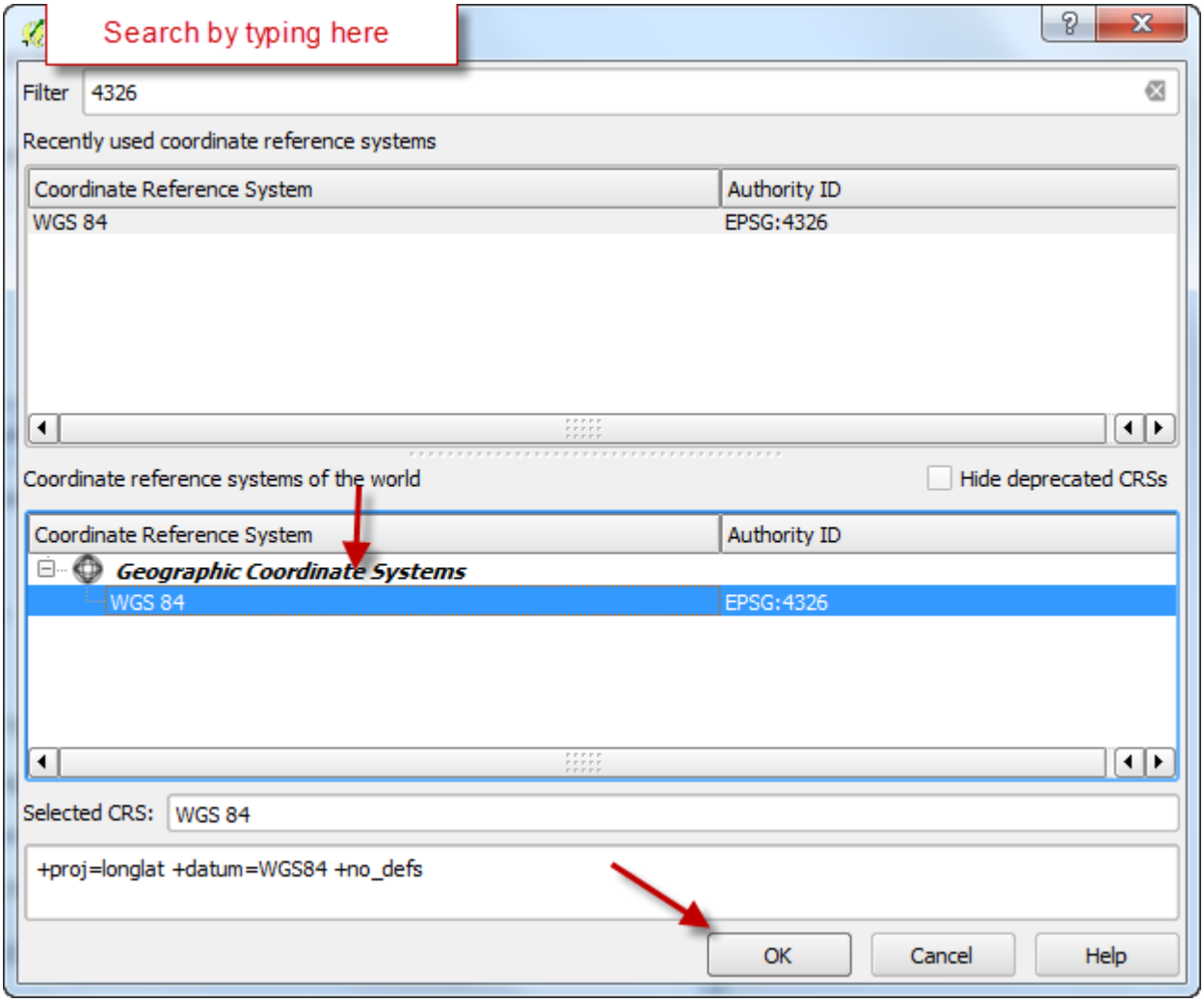


On the pop up window, select geometry type.

- Polygon if expected closed structures and will be marked by three or more points.
- A line if it is a continuous stream of points that do not close.
- Point if only one point is expected.

Click 

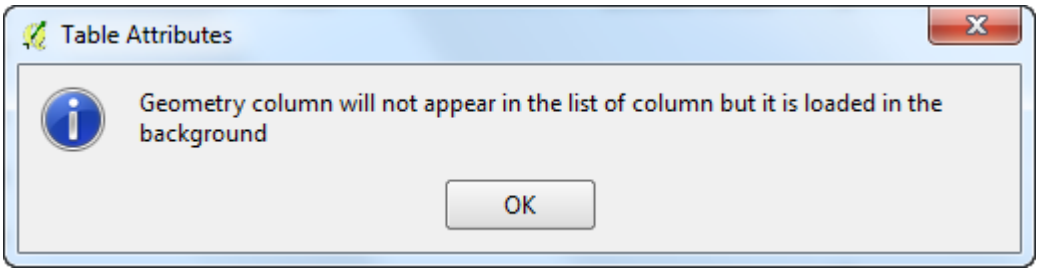
button to select the desired Coordinate System from the coordinate selector. By default WGS 84 is used.



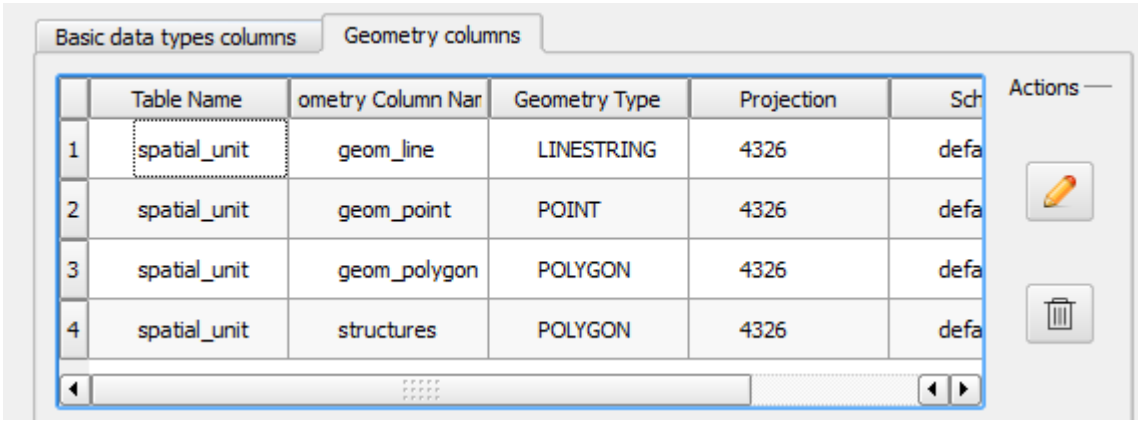
Once selected, only the EPSG code of the selected Coordinate System will appear.

Click **OK**.

Then Click **Ok**.



The above message will appear to alert you that the geometry columns are not part of the textual column.



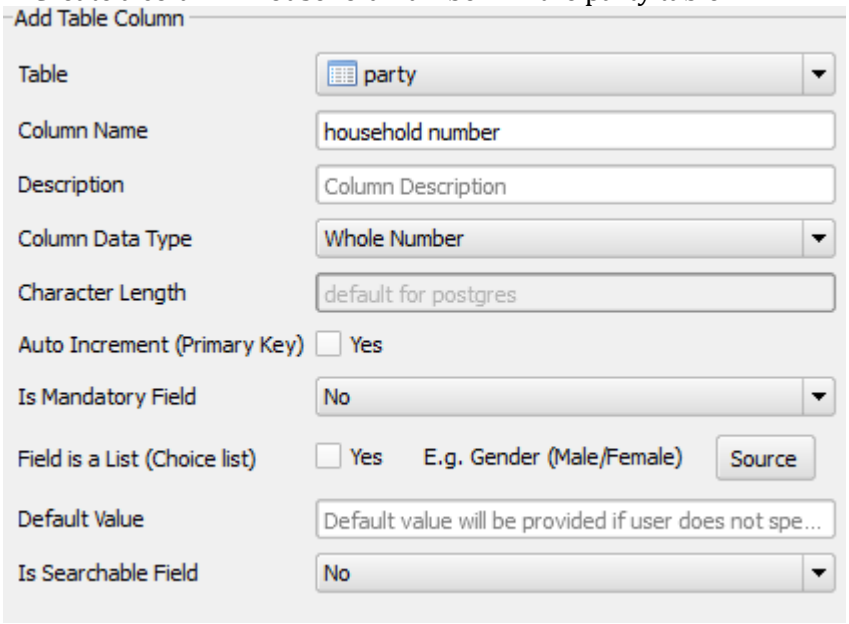
3.1.5. Working with Foreign Key

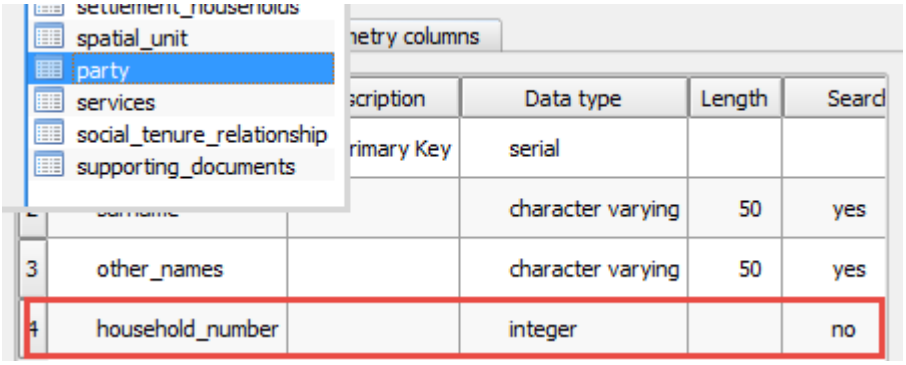
The STDM allows the user to extend to other modules by use of the "**Primary Key**"
The Foreign Key is automatic defined during the module/tables relationships.

Creating table relations (child to parent table constrains)

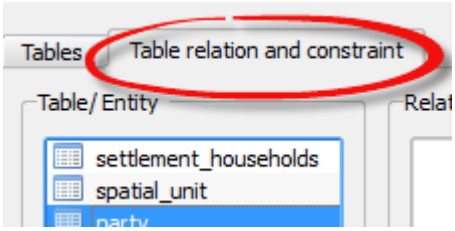
To successfully create a relationship for tables, the child table must have the relation column and should be of data type integer (whole number).
The parent table must have the Primary Key field (id) column.

Sample relation:
1. Create a column "household number" in the party table



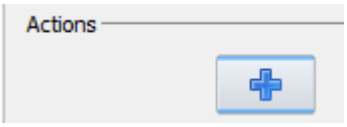


2. Click on **Table relation and constraint** tab.

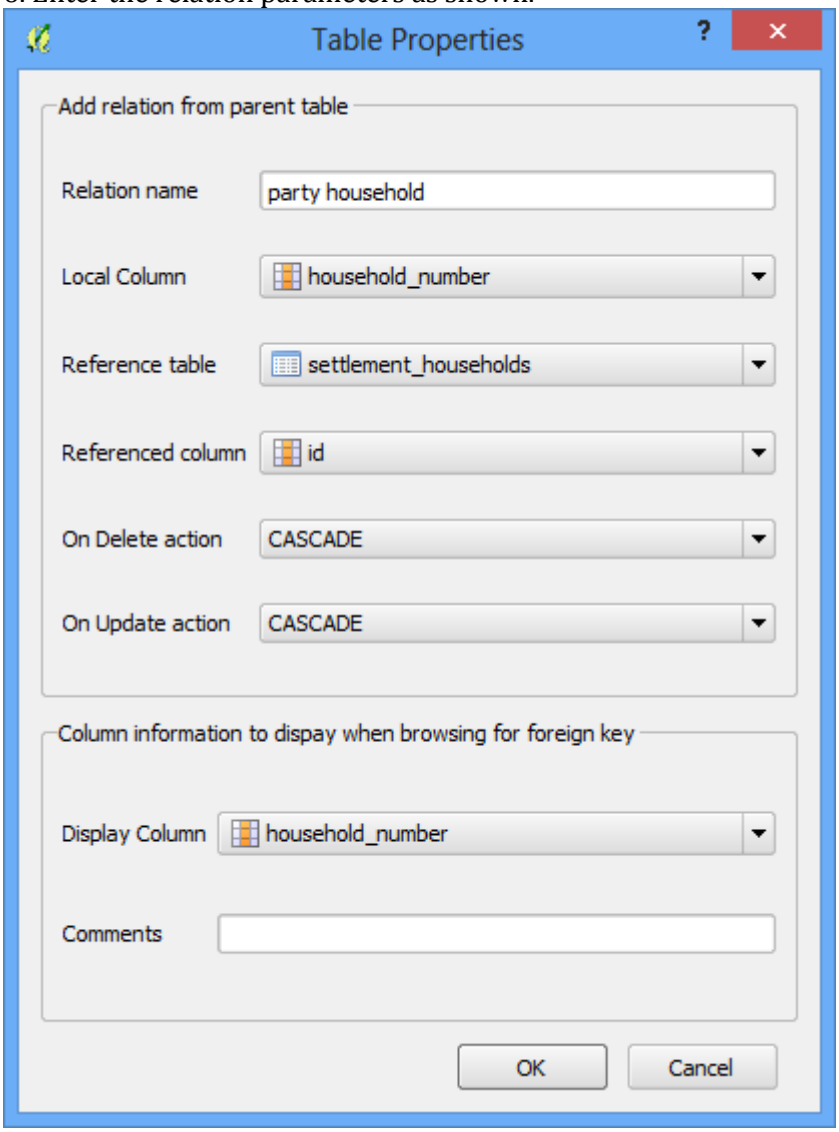


4.Ensure party table is selected in the table view panel.

5. Click button at the bottom



6. Enter the relation parameters as shown.



Relation name *cannot be empty and can be given as any text. e.g. person household number*

Local column *refers to column in child table to reference the parent e.g. household number*

Reference table *refers to parent table e.g. settlement household*

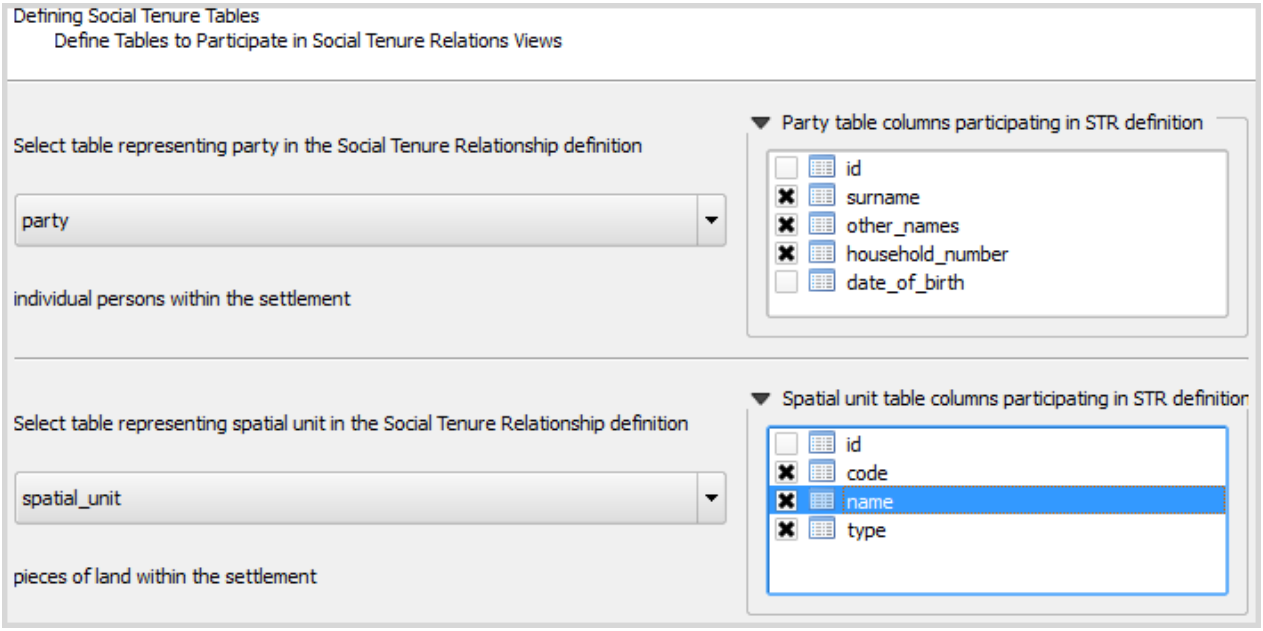
Referenced column *refers to unique or primary key column reference in the parent table e.g. id or household number.*

Click OK to save new relation.

A relation can be deleted by selecting the particular relation on the list and clicking the delete button at the bottom

3.1.6. Creating STR tables

This step is available in the design form wizard after creating table attributes and clicking Next on the wizard.
Creating STR tables actually refers to selection of core tables that will participate in social tenure relation definition later.

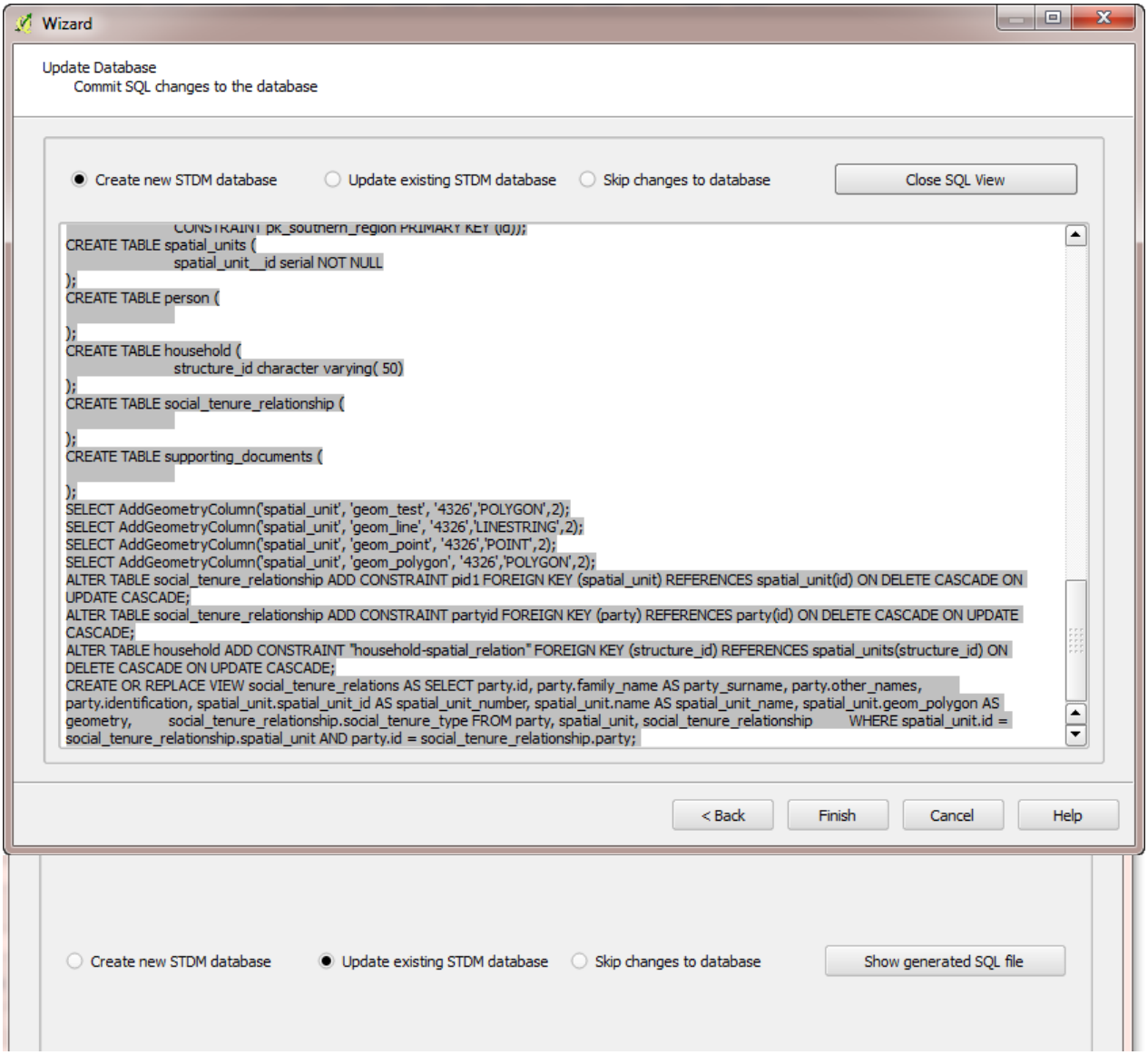


1. Select from first drop down table representing Party.
2. Select from the selected party table, a columns that can be used in the representation of social tenure relationship.
3. Select from the second drop down list the table representing spatial unit.
4. Select from the spatial unit table, a list of columns to participate in social tenure relationship.
Click Next to proceed.
A pop up appears showing you that database has been successfully created.

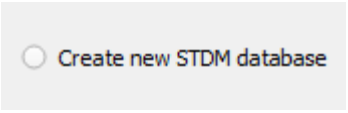
3.1.7. Creating new data schema

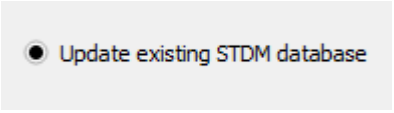
After creating the paths, profiles, tables, attribute, table relationships and STR, the user will now be required to create data schema.
This appears as the last step in design form configuration where all the settings and tables created will be stored in a new config file.

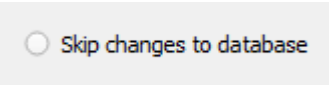
*The user can see the generated SQL by clicking to the "**Show generated SQL file**"*

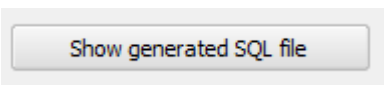

Wizard
Update Database
Commit SQL changes to the database
Create new STDM database
Update existing STDM database
Skip changes to database
Close SQL View
CONSTRAINT pk_southern_region PRIMARY KEY (id));
CREATE TABLE spatial_units (
spatial_unit_id serial NOT NULL
);
CREATE TABLE person (
);
CREATE TABLE household (
structure_id character varying(50)
);
CREATE TABLE social_tenure_relationship (
);
CREATE TABLE supporting_documents (
);
SELECT AddGeometryColumn('spatial_unit', 'geom_test', '4326','POLYGON',2);
SELECT AddGeometryColumn('spatial_unit', 'geom_line', '4326','LINESTRING',2);
SELECT AddGeometryColumn('spatial_unit', 'geom_point', '4326','POINT',2);
SELECT AddGeometryColumn('spatial_unit', 'geom_polygon', '4326','POLYGON',2);
ALTER TABLE social_tenure_relationship ADD CONSTRAINT pid1 FOREIGN KEY (spatial_unit) REFERENCES spatial_unit(id) ON DELETE CASCADE ON UPDATE CASCADE;
ALTER TABLE social_tenure_relationship ADD CONSTRAINT partyid FOREIGN KEY (party) REFERENCES party(id) ON DELETE CASCADE ON UPDATE CASCADE;
ALTER TABLE household ADD CONSTRAINT "household-spatial_relation" FOREIGN KEY (structure_id) REFERENCES spatial_units(structure_id) ON DELETE CASCADE ON UPDATE CASCADE;
CREATE OR REPLACE VIEW social_tenure_relations AS SELECT party.id, party.family_name AS party_surname, party.other_names, party.identification, spatial_unit.spatial_unit_id AS spatial_unit_number, spatial_unit.name AS spatial_unit_name, spatial_unit.geom_polygon AS geometry, social_tenure_relationship.social_tenure_type FROM party, spatial_unit, social_tenure_relationship WHERE spatial_unit.id = social_tenure_relationship.spatial_unit AND party.id = social_tenure_relationship.party;
< Back
Finish
Cancel
Help
Create new STDM database
Update existing STDM database
Skip changes to database
Show generated SQL file

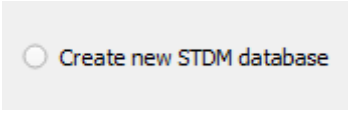
Note:

1. The  allows you to create a database schema from the configuration you have made. Previous schema will be deleted.

2. The  allows you to update and save changes if the database was created and you were making some changes.

3. The  allows you to skip making changes or updates to your database.

4. The  allows you to display the SQL file, and you can also make changes from the SQL file in case there is an error when executing the database

4. Check on the 

circle
A warning pop up appears to indicating that the selection will erase any previous data. To continue with new changes, click yes.

6. Click **Finish** to end the process.
A confirmation of new changes made will pop up.
Restart QGIS for the new changes to be effective.

4. Data Management: Working with Modules

While working and managing the STDM modules, make sure QGIS is started and running while STDM is visible in QGIS interface tool bar.

Each module has a browser that loads any existing data from the database and also sets data management sessions where you can add, edit or deleted existing records.

4.1.Managing Party Module

Party may refers to a person, group or an organization that has unique characteristics and their relationship to a spatial unit can be explicitly defined. For the purposes of this documentation, party here refers to a person.

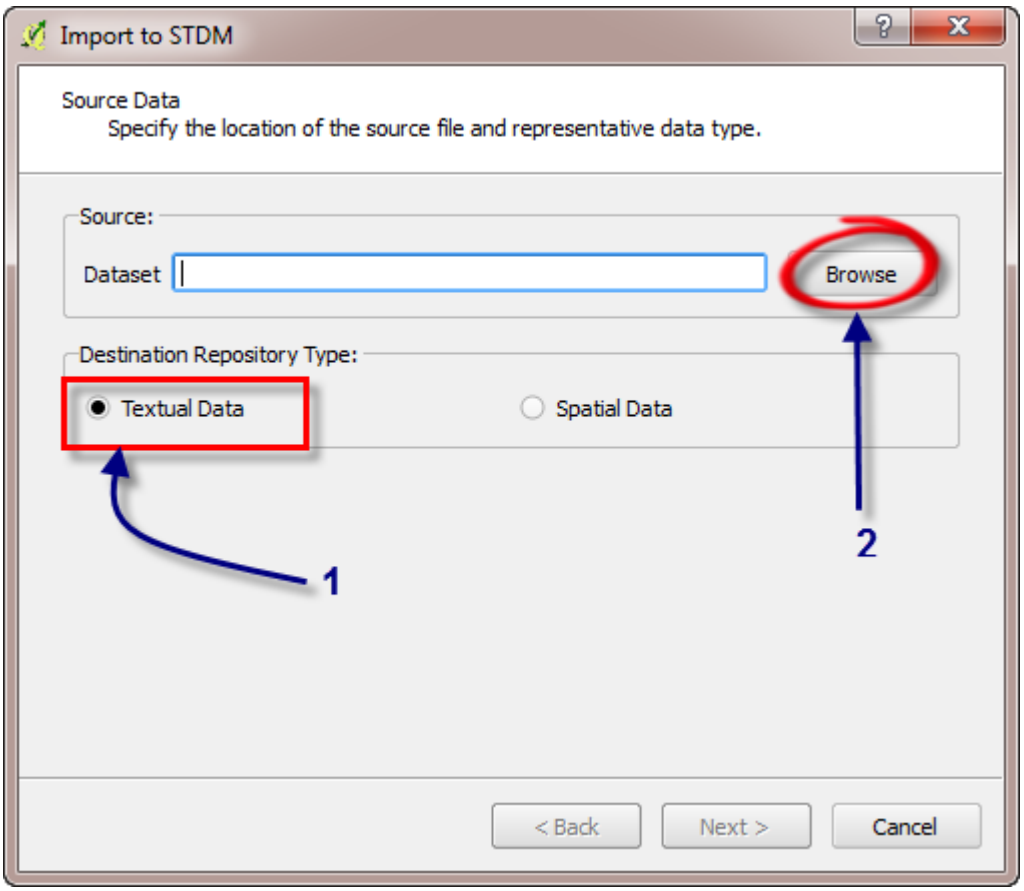
Importing new Party Data

*When importing new party data into the STDM, make sure that the data is in excel sheets and in ***csv** (comma Delimited) format.*

1. In the *QGIS interface tool bar*, click the **import data button** to import new data.

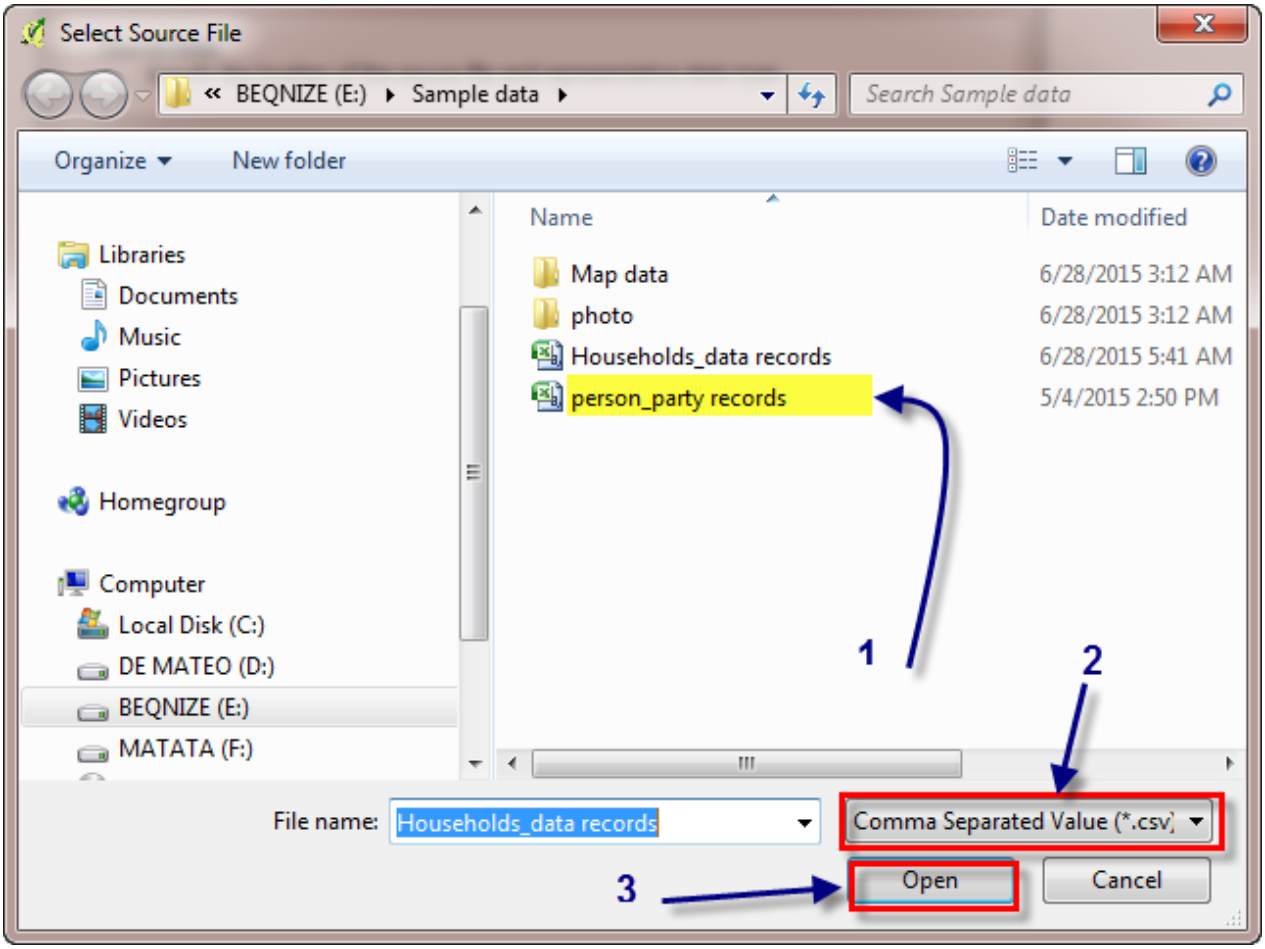
2. An import wizard appears. Check the **textual data** circle (**1**) to activate/enable you to import the attribute data.

3. Browse to where you have stored the party data in excel.



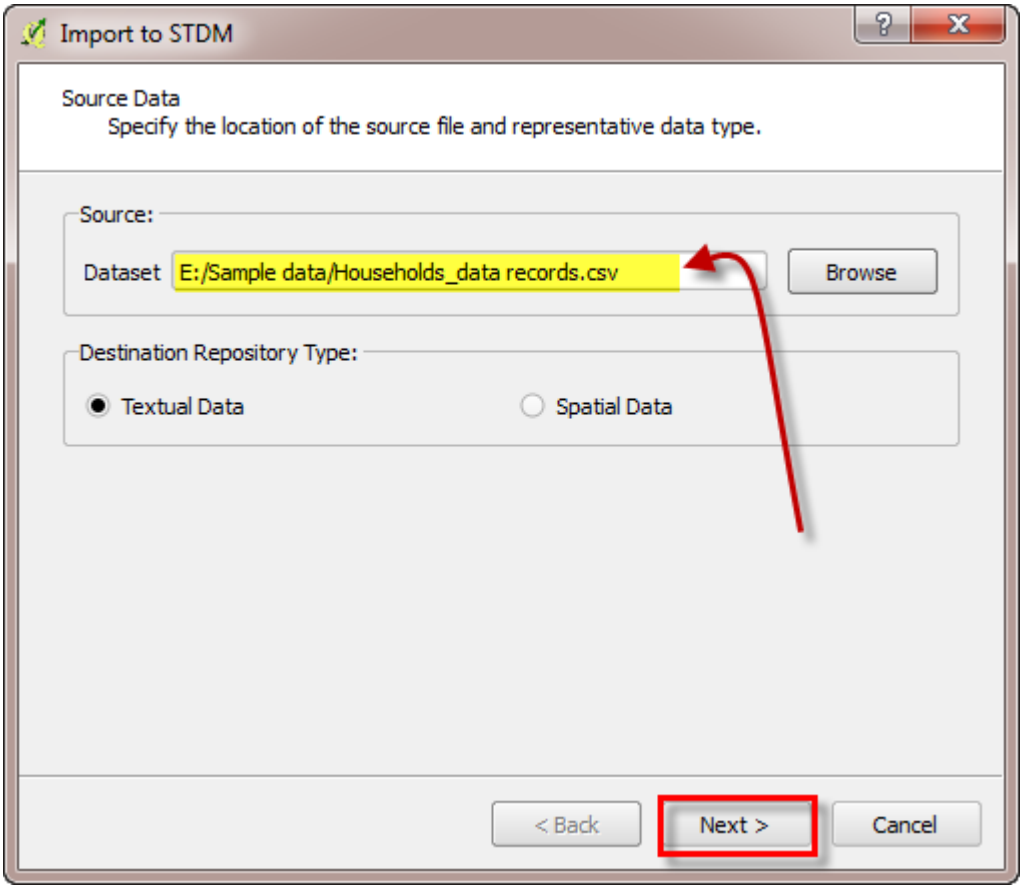
4. Select the party data you wish to import

5. Click **Open**



A browser appears showing the data imported.

6. Click **Next** to continue

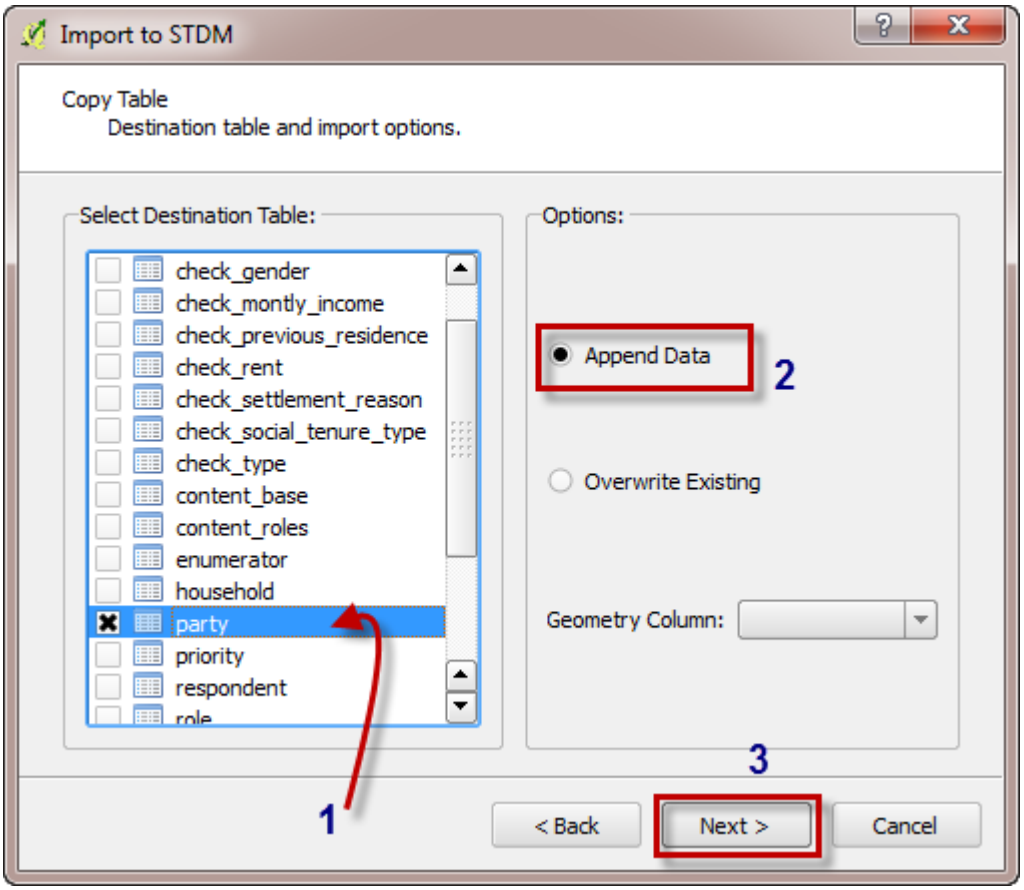


A browse form appears

7. Check the Party box as shown below in (**1**).

You only **append** when you want to preserve existing data. **Overwrite** is used when there is an existing imported data in the database and you want to replace it with with the new data.

8. Click **Next** to continue



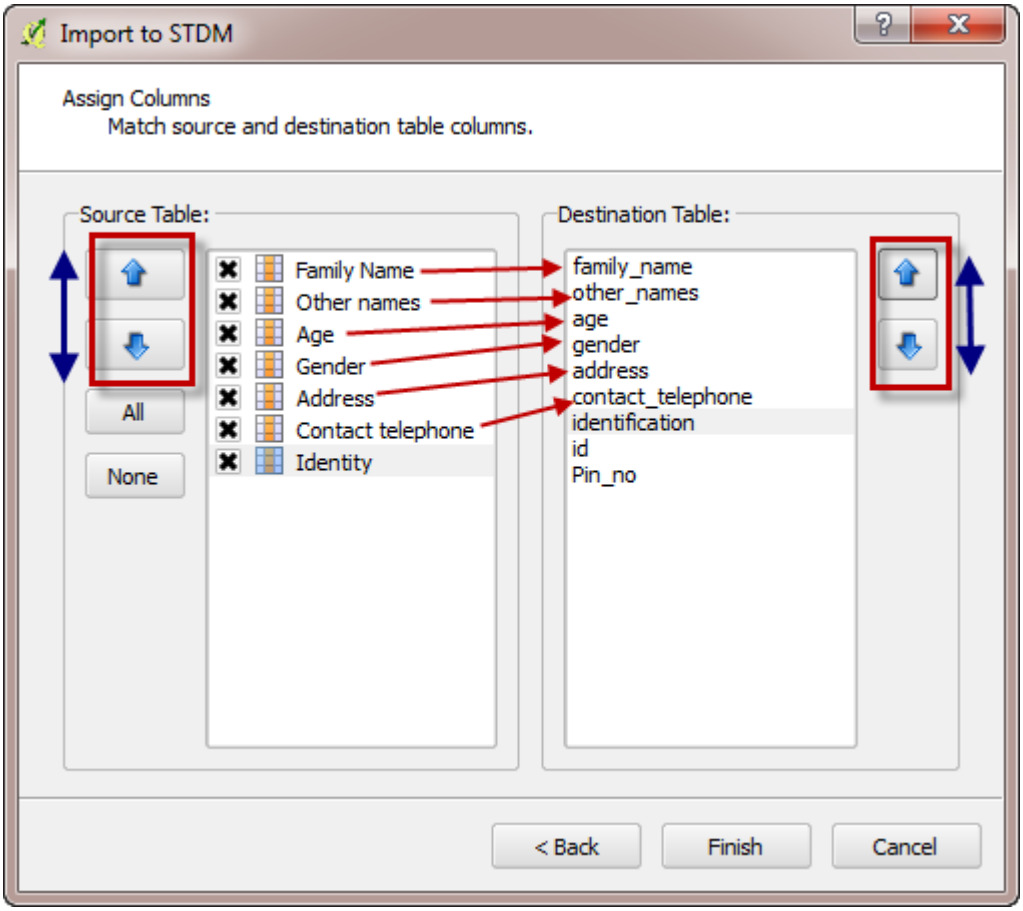
A browser appears. This browser form allows you to compare and match the data entry columns in the imported data and those that are in the destination tables.

9. Check the matching columns and make them align to each other on the same level.

For example, the column on the **Family Name** on the Source table has to match with the column of the **family name** in the Destination Table.

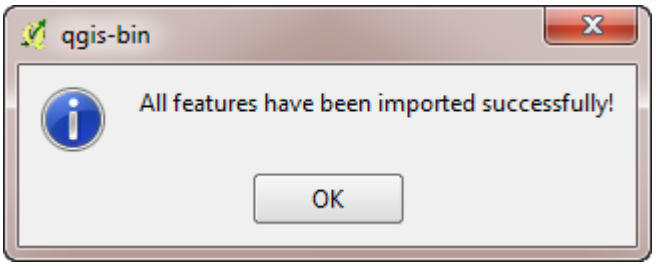
The ***arrows helps you to move the columns up and down in the process of aligning them.***

10. Click **Finish**



A pop up appears showing that the data has been imported successfully.

11. Click **OK** to finish the task



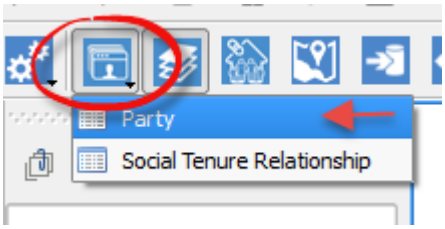
To add data in party record manager

When adding new party data into the STDM,

1. Click on the **module settings** button.

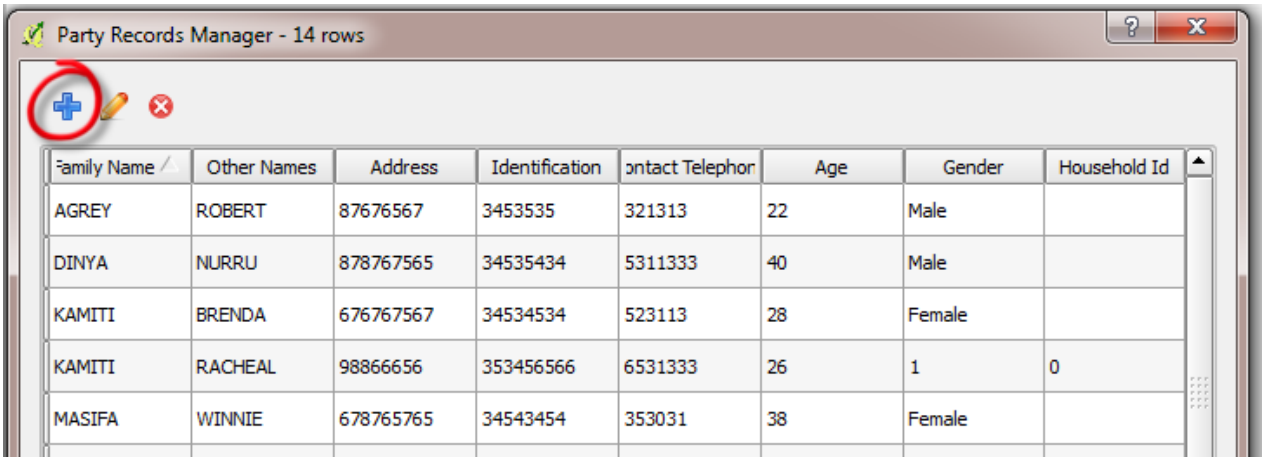
A pop up shows up

2. Select **Party** from the pop up

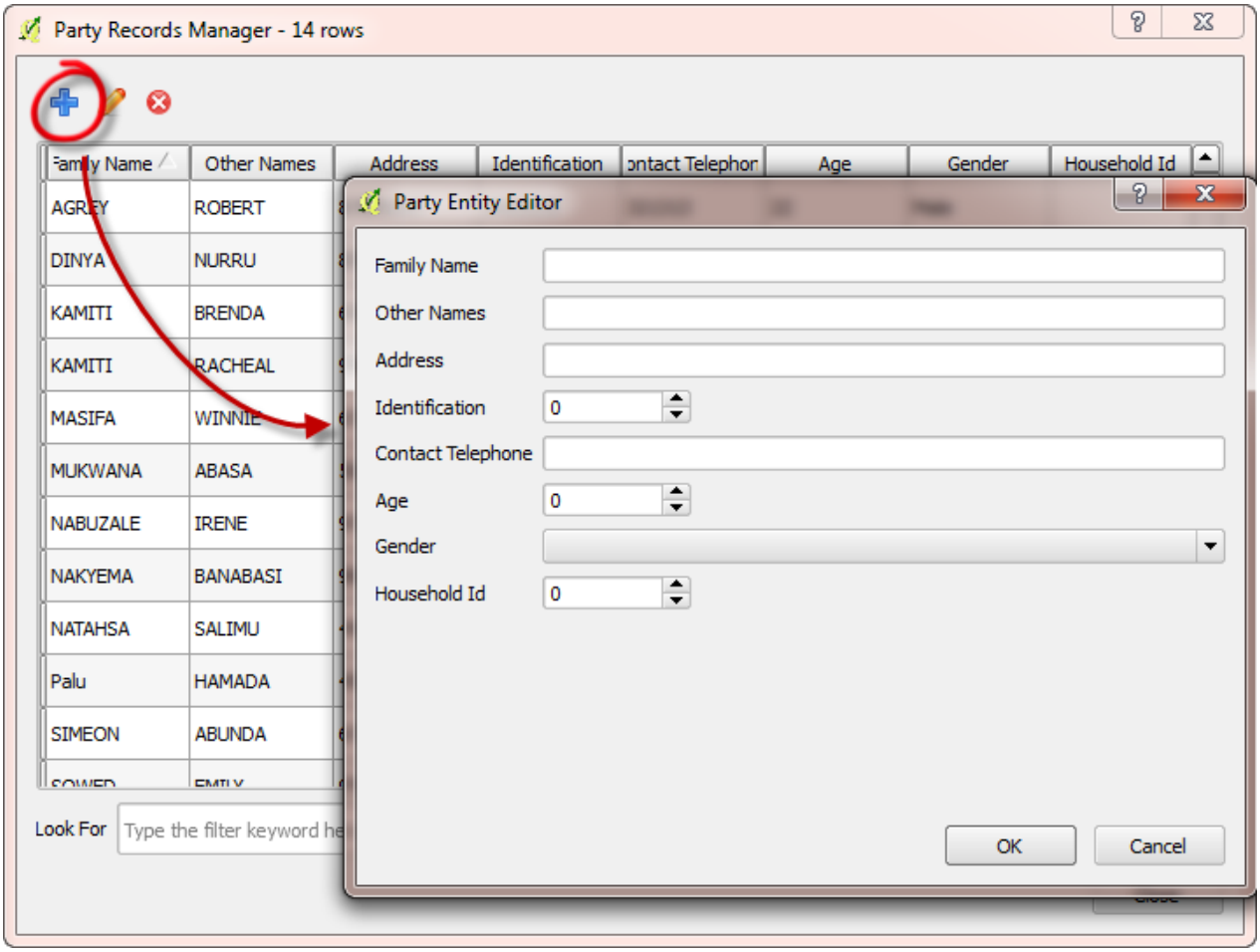


3. A party browser will appear allowing you to add any party record.

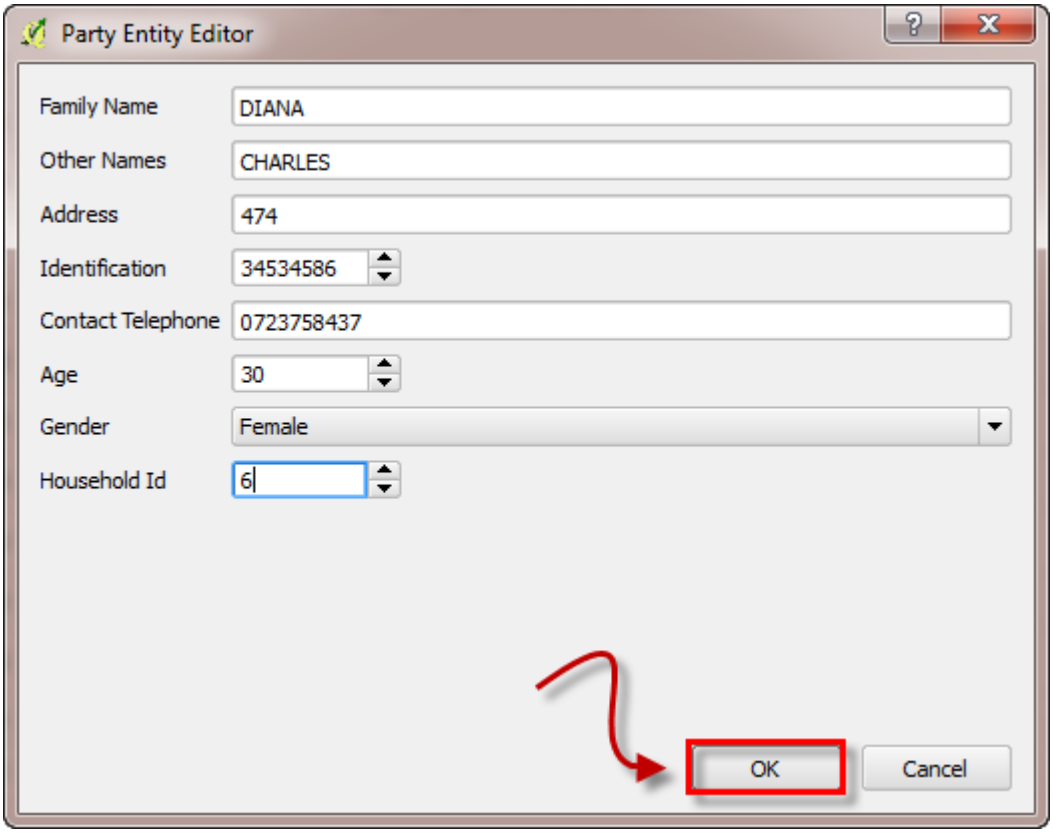
4. Use the button to add the party record



5. Party Entity Editor Form appears allowing you to fill the new record.



6. Enter the new Party Record



7. Click **OK**

A pop up appears showing that the record has been successfully saved

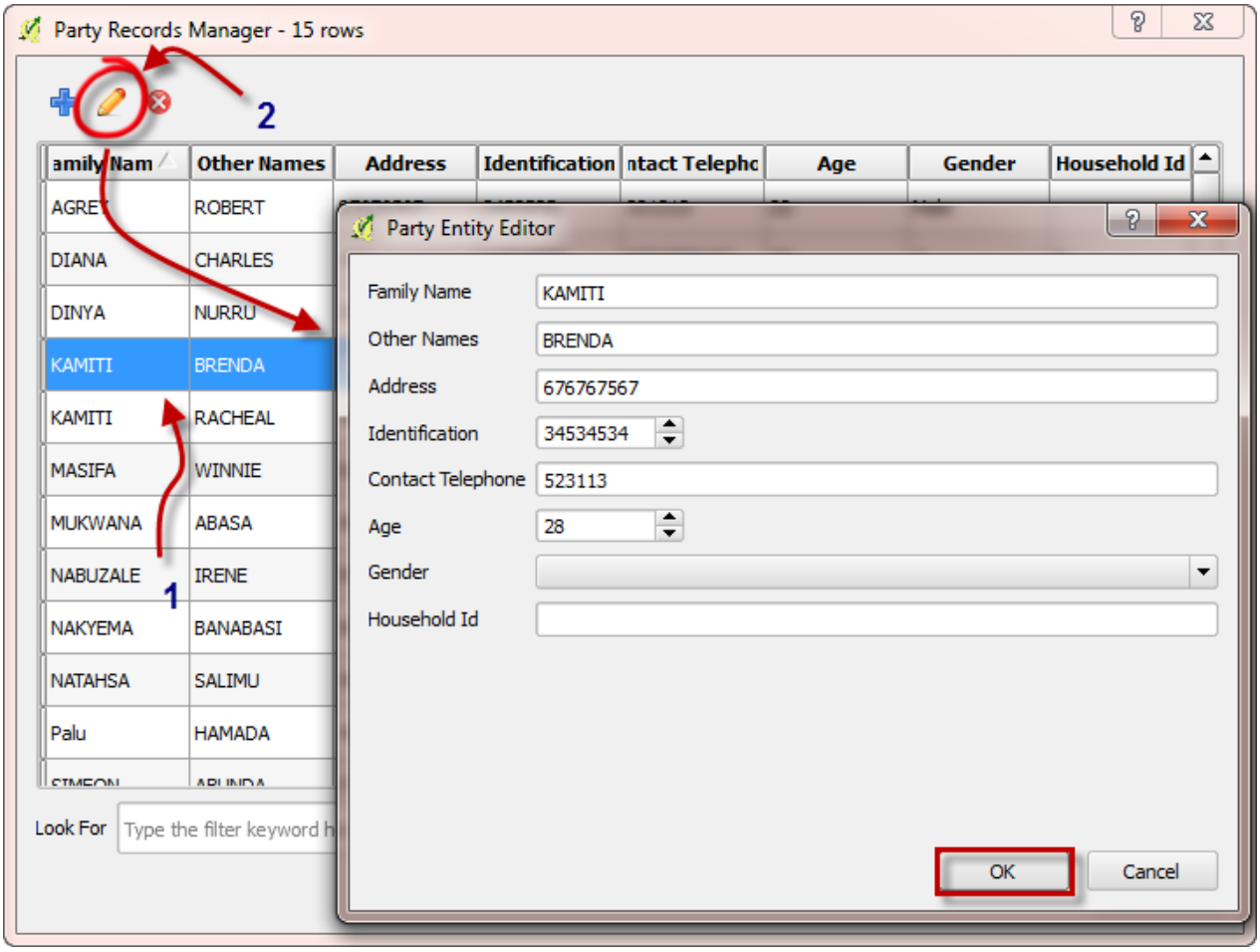
8. Click **OK** to finish the task

Editing/ Updating a Party Record

1. On the Party browser form, select the party record entity you wish to edit/update

2. Select the edit button .

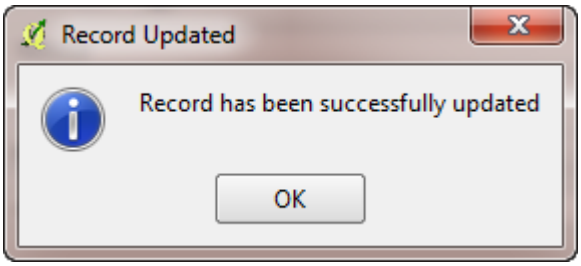
A party entity editor pops up allowing you to do the edits.



3. Edit/ Update the existing record.

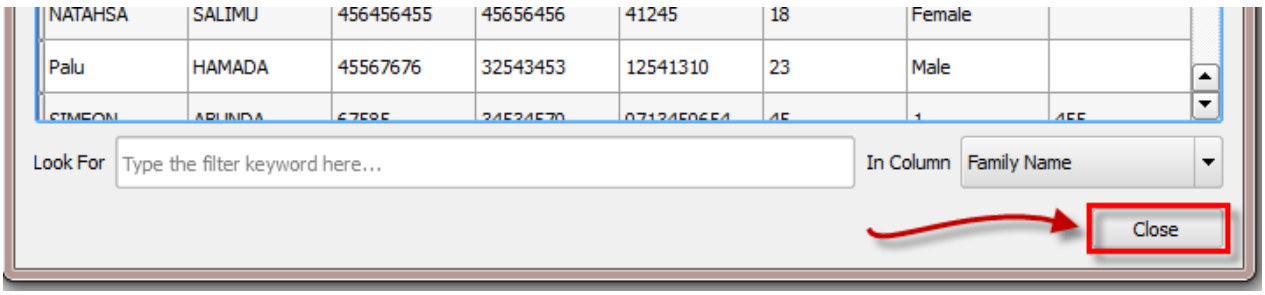
4. Click **OK**

A notification will appear showing that the record has been successfully updated.



5. Click **OK**

6. Click **Close** button on the bottom-right of the browser to finish the task.

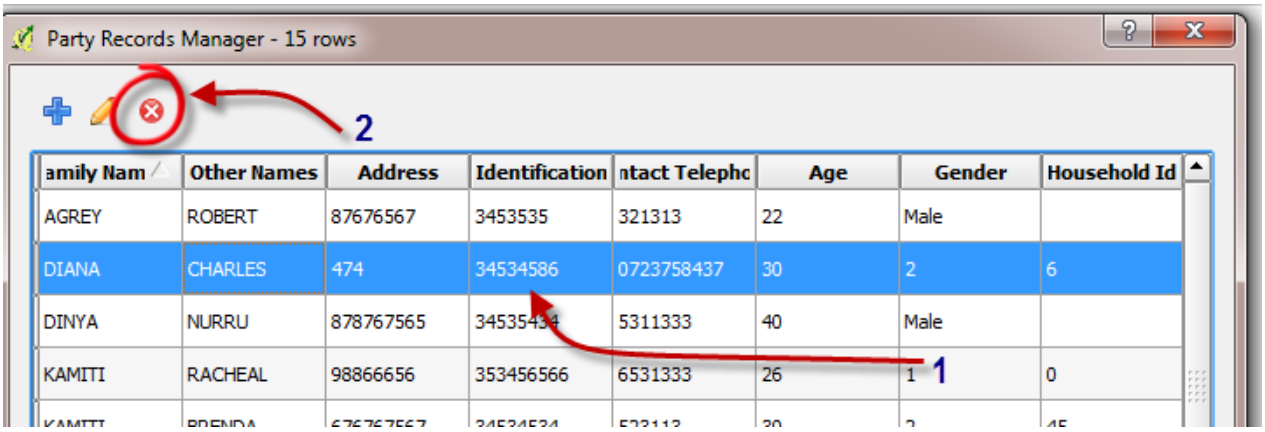


Deleting a Party Record

When deleting a Party record; button is used.

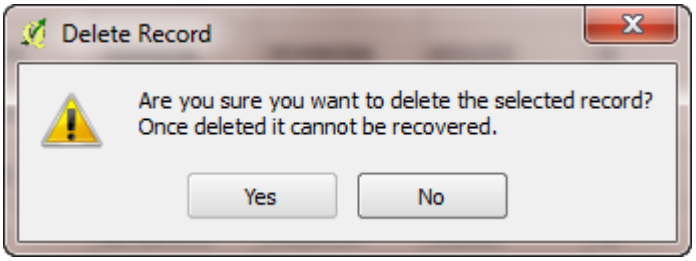
1. On the Party browser, select the party record you wish to delete

2. Click the delete button to execute the command.

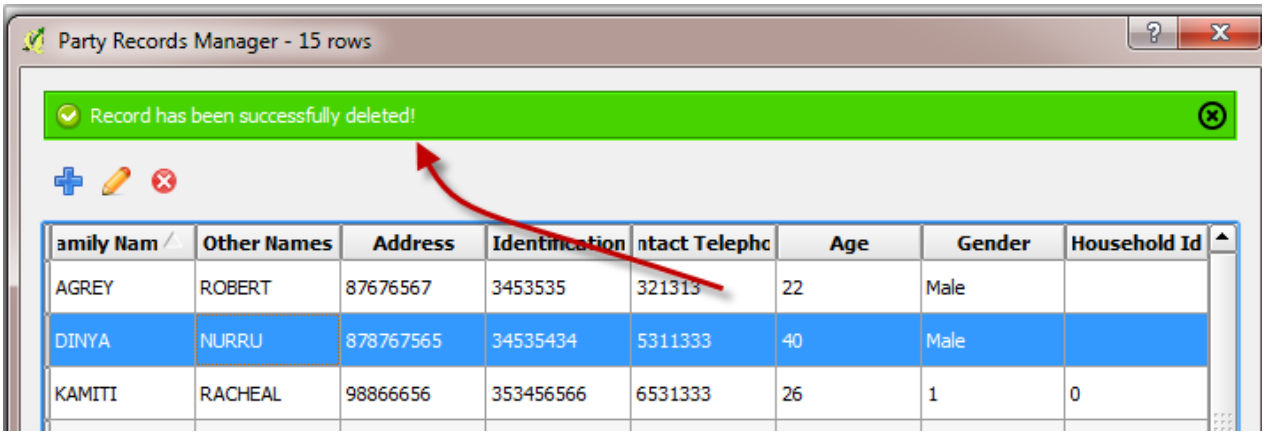


A warning appears to confirm whether you are ready to delete the record.

3. Click **Yes** to delete the record



A notification appears showing that the selected party record has been successfully deleted.

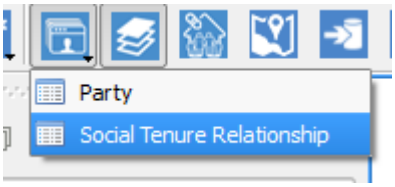


4. Click **Close** to end the task

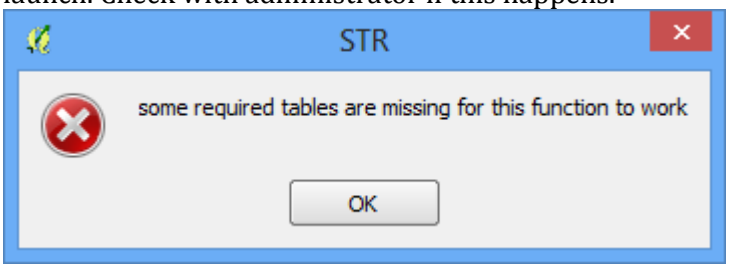
4.2.Define New Social Tenure Relationship

Social Tenure Relationship entails defining the rights that a Party has to a given spatial unit.
To set up a social tenure relationship;

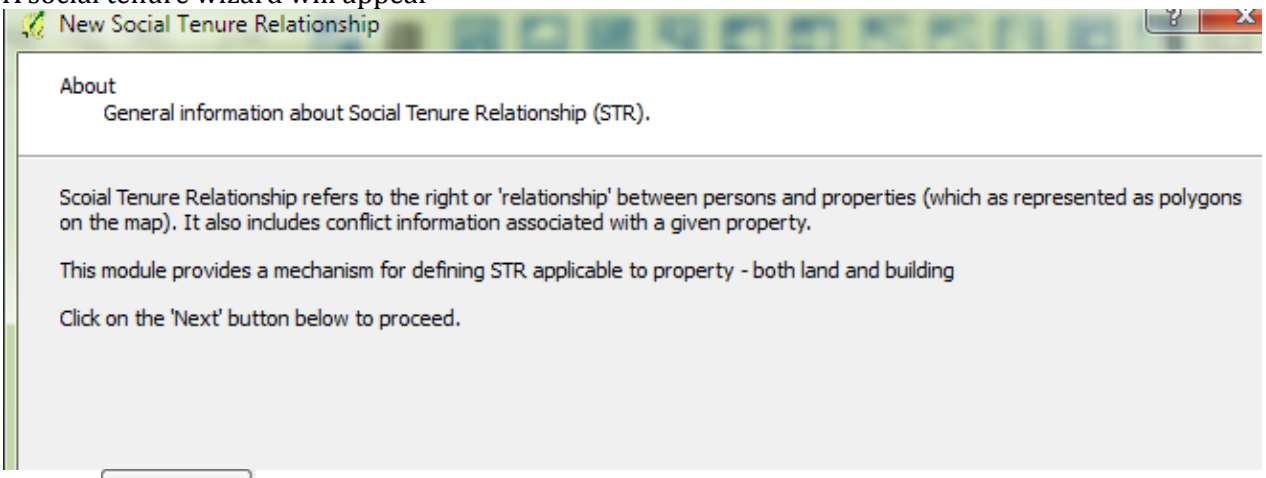
1. Click on the **module settings** button on the QGIS tool bar
2. Select **'Social Tenure Relationship** from the modules available on the drop down options.

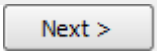


Before the Social tenure relationship wizard launches, an integrity check will be performed for a given social tenure document id table in the database. If this table is missing, this wizard will fail to launch. Check with administrator if this happens.



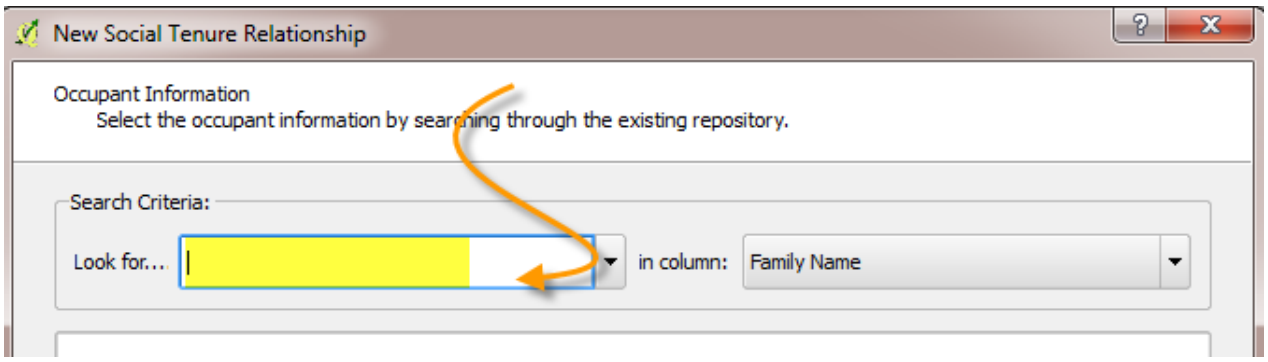
If everything is okay,
A social tenure wizard will appear


New Social Tenure Relationship
About
General information about Social Tenure Relationship (STR).
Scoial Tenure Relationship refers to the right or 'relationship' between persons and properties (which as represented as polygons on the map). It also includes conflict information associated with a given property.
This module provides a mechanism for defining STR applicable to property - both land and building
Click on the 'Next' button below to proceed.

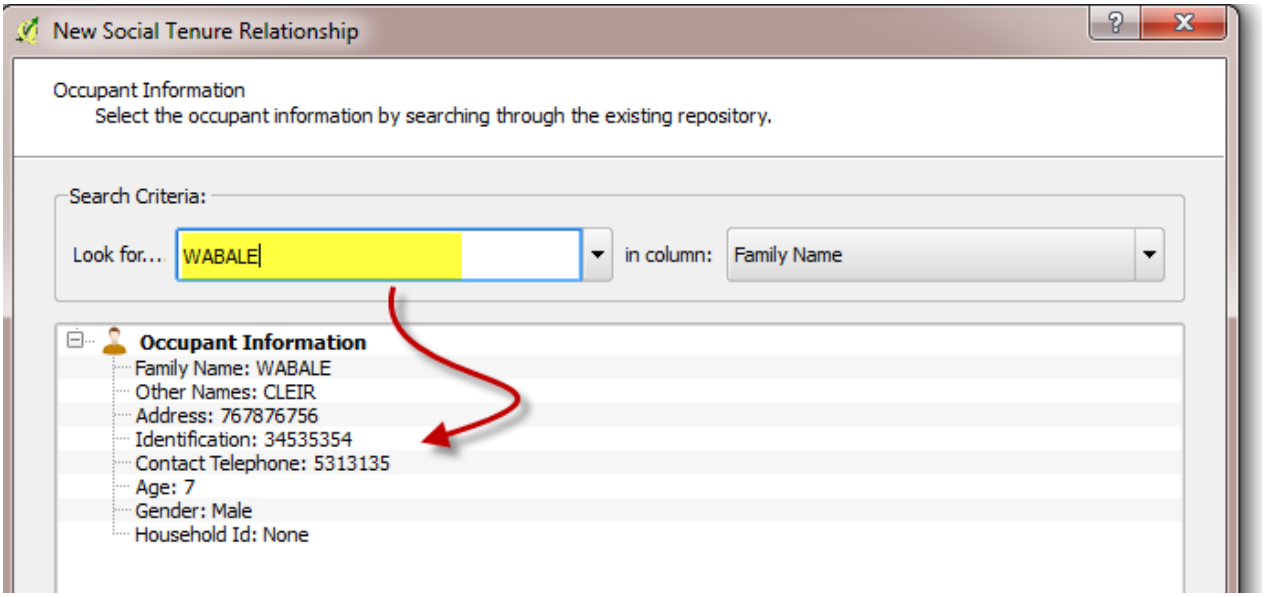
4. Click 

on the wizard to proceed

5. Search for the party (person) by typing in highlighted field.
The search text will be matched with data in the column selected in the drop down combo as shown (Family Name)



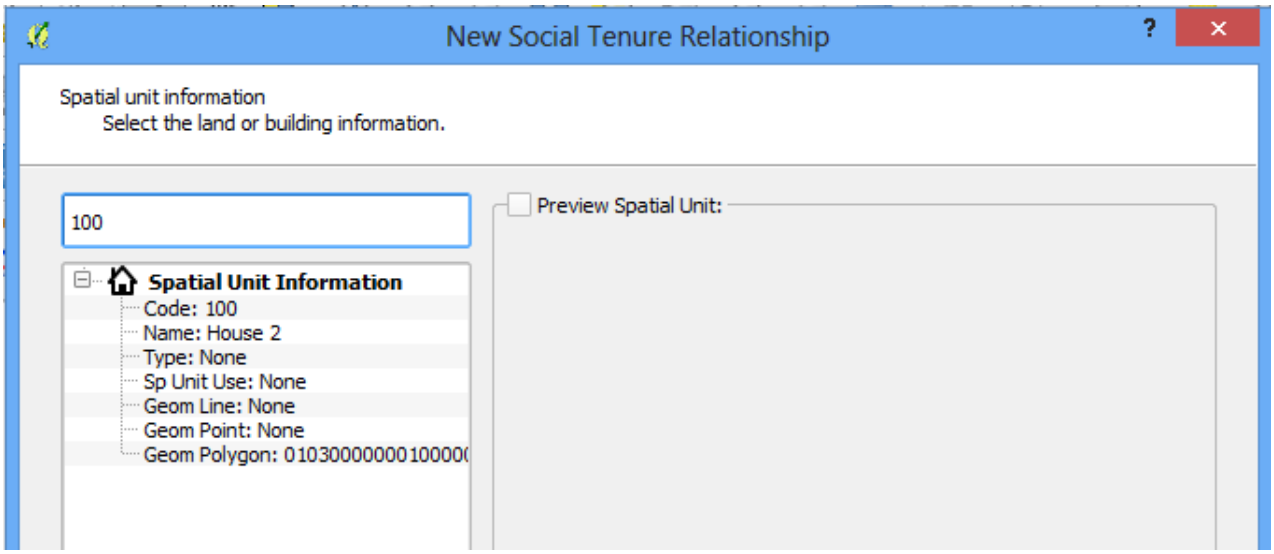
The search criteria may be by first name, last name or ID number depending on currently selected field. If the name entered is shared by multiple occupants, you can use other criteria to identify which occupant is targeted.
6. Select one row from the result of search and click inside the display panel below to load the person data.

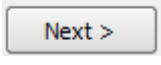


7. The person's information selected appears. Click "**Next**" to continue

A dialog displays showing asking you to choose the property that you wish to relate with the person you had selected. Choose the property by typing the structure code.

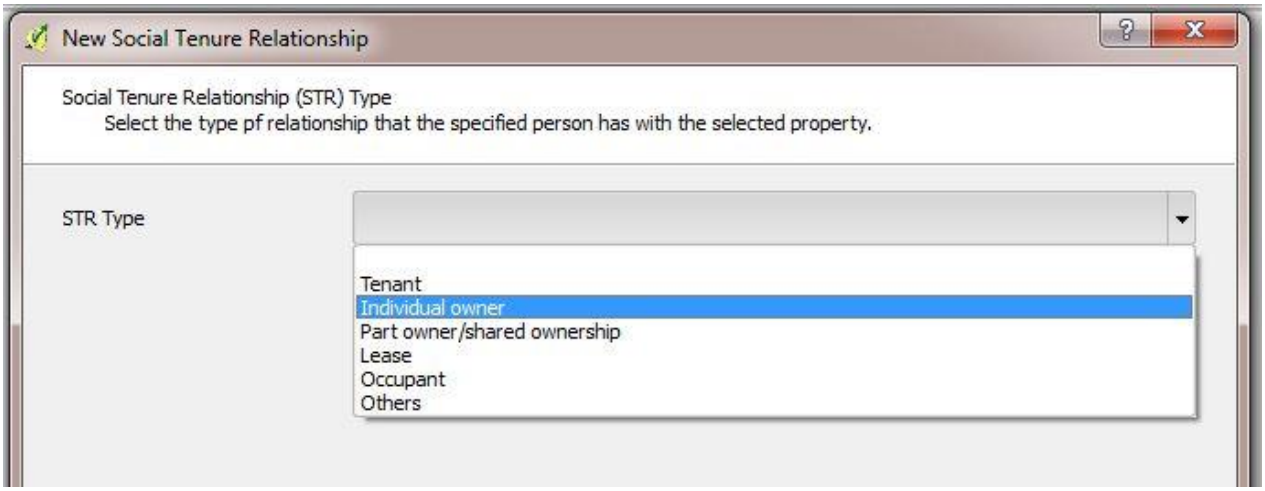
The selected property information displays as shown below.



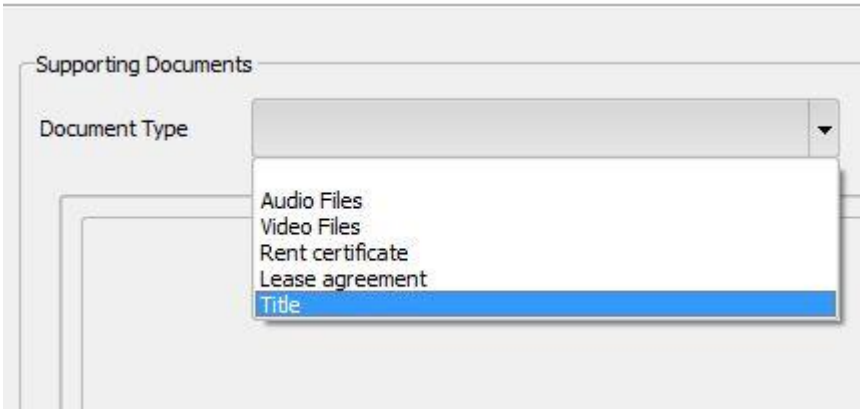
8. Click "**Next**"  to continue.

The next wizard is where the user selects a social tenure relationship of the identified occupant and the selected property. The wizard has an STR Type field where there are several different relationship types. From the drop down options, select the required relationship type and click the next button.. For example, Tenant, Individual Owner, Lease, Occupant etc.

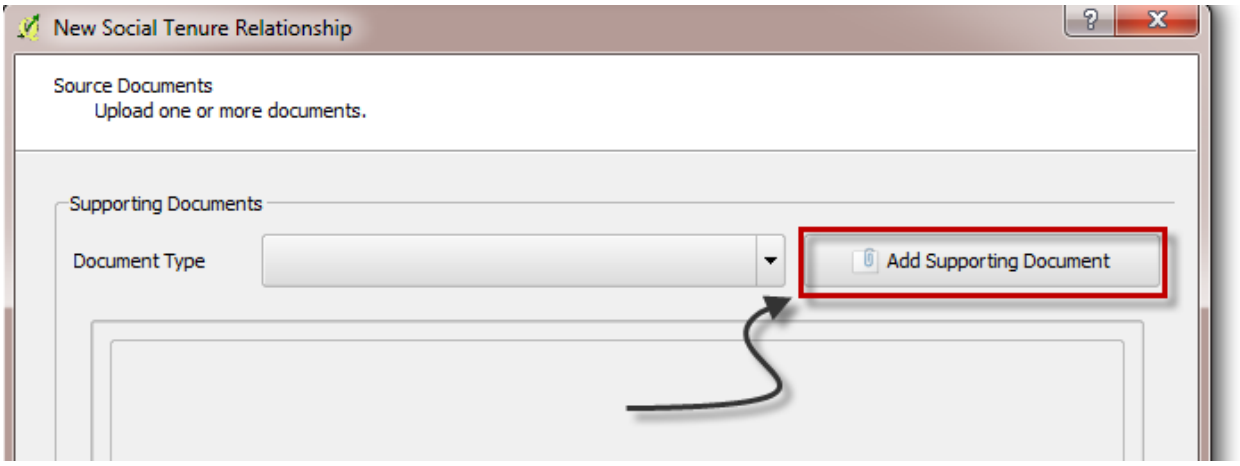
9. In the drop down list select one option, i.e. **"individual owner"** as a Social Tenure Relationship as shown below.



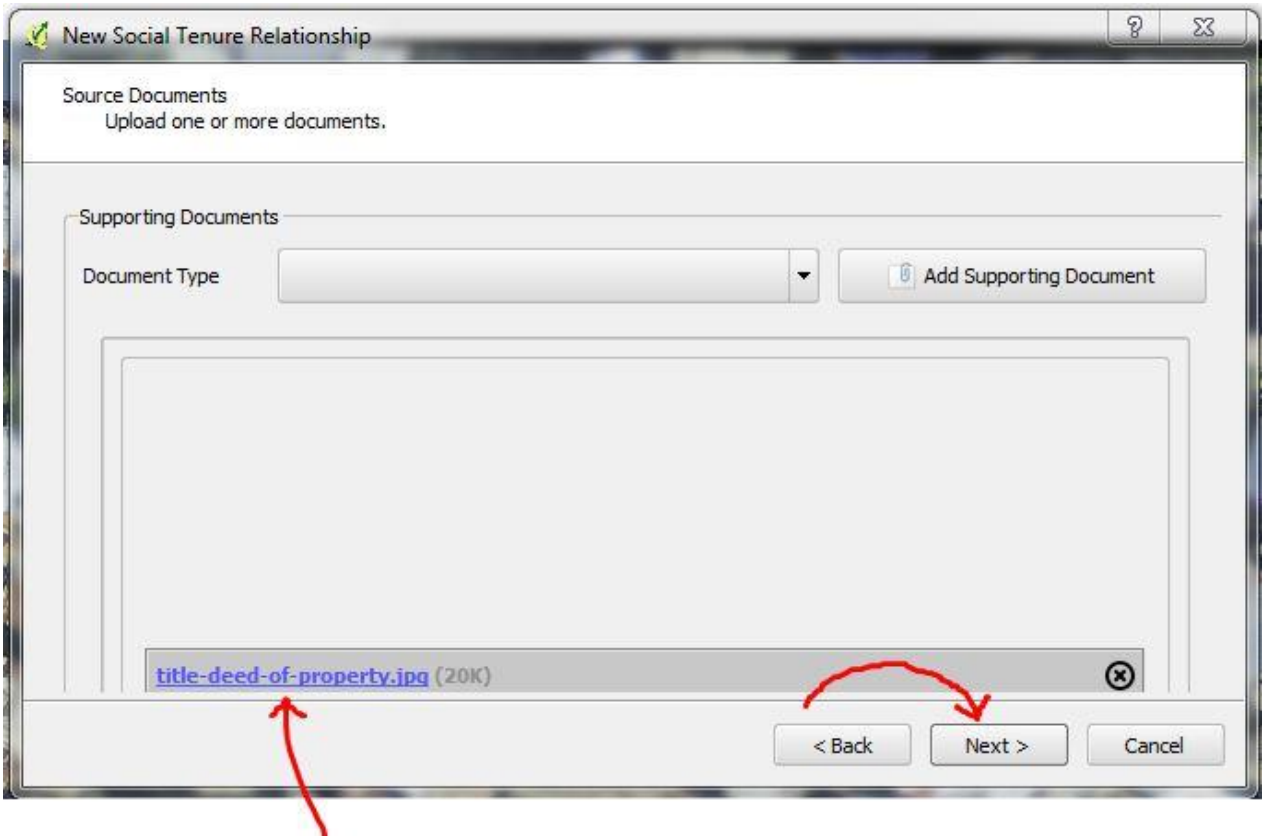
10. *Click* ***Next*** *to continue.*
A supporting document wizard box appear.
11. In the "**Document Type**" drop list select the type of the supporting document.



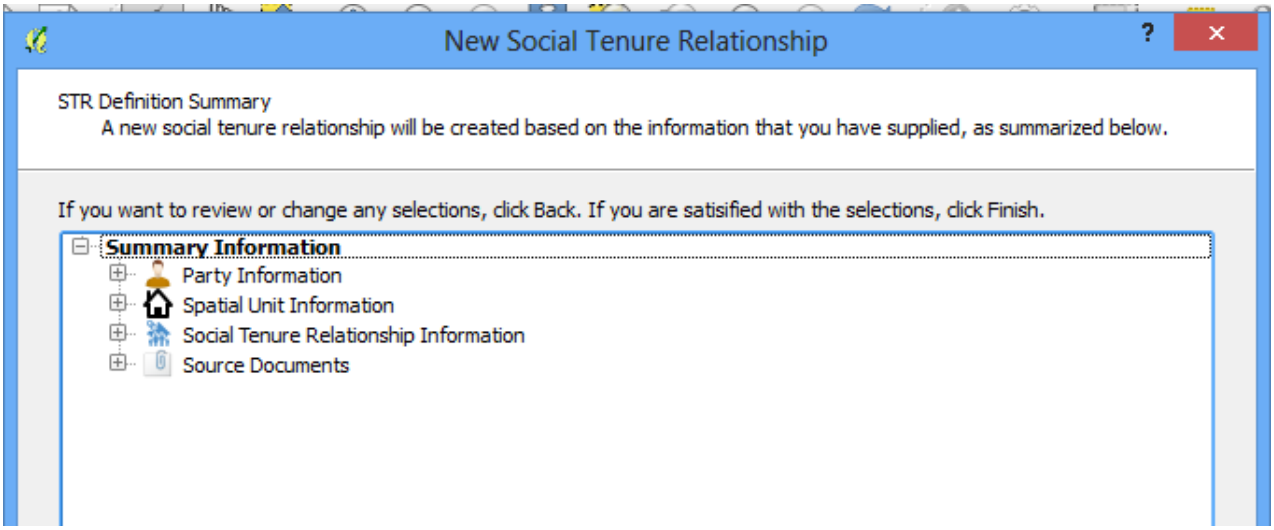
12. Browse to where the supporting document file is through the "Add Supporting Document" button to attach the file/document.



At the bottom of the dialog box shows the upload of the selected supporting document as shown below.
13. Click **Next** to continue.

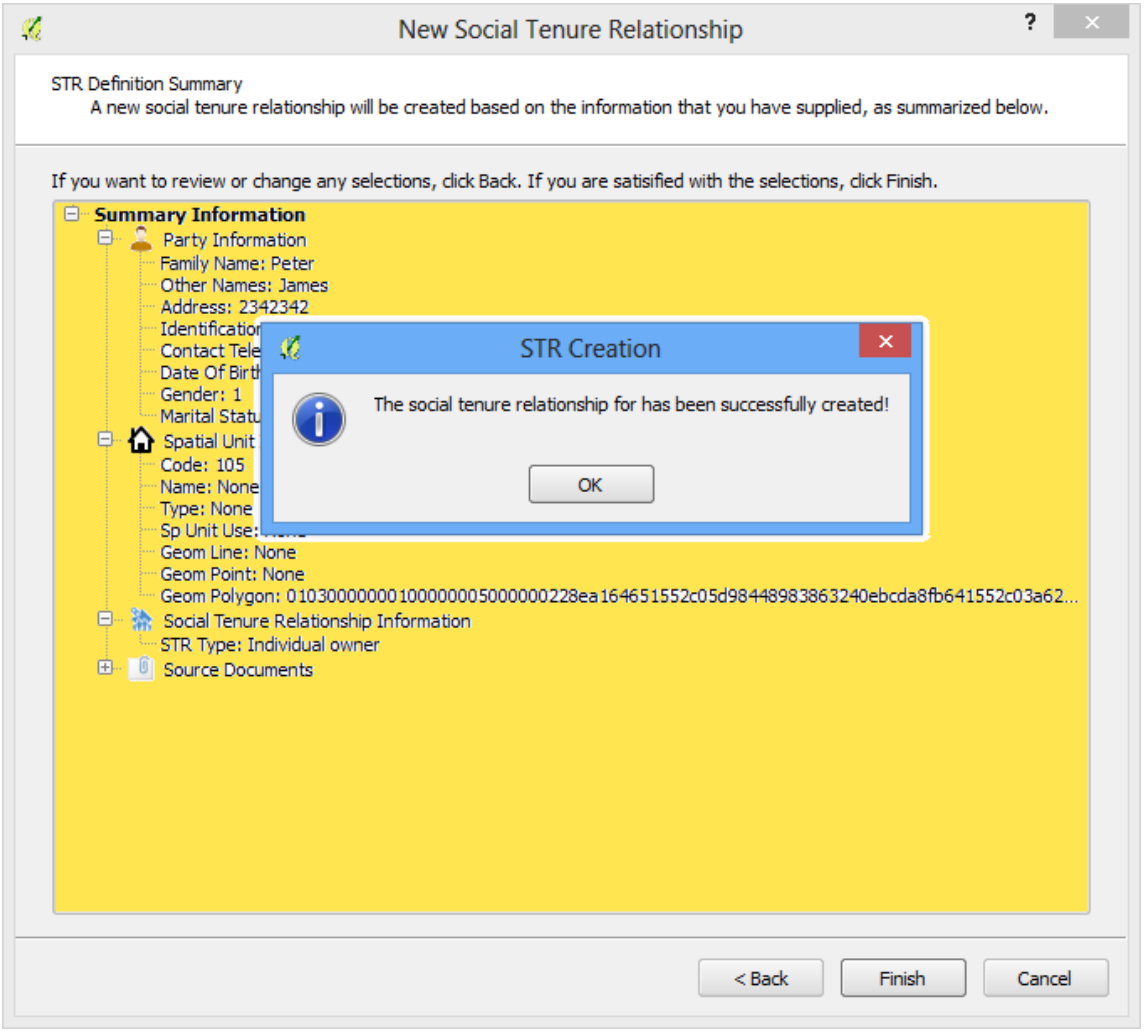


14. Click OK to continue.
A social tenure relationship summary will appear with all the information provided. This will be the last wizard and by clicking the finish button, the user will create the relationship.


New Social Tenure Relationship
STR Definition Summary
A new social tenure relationship will be created based on the information that you have supplied, as summarized below.
If you want to review or change any selections, click Back. If you are satisified with the selections, click Finish.
Summary Information
Party Information
Spatial Unit Information
Social Tenure Relationship Information
Source Documents

15. Click **Finish** button.
A notification pops up showing that the relationship has been successfully created.

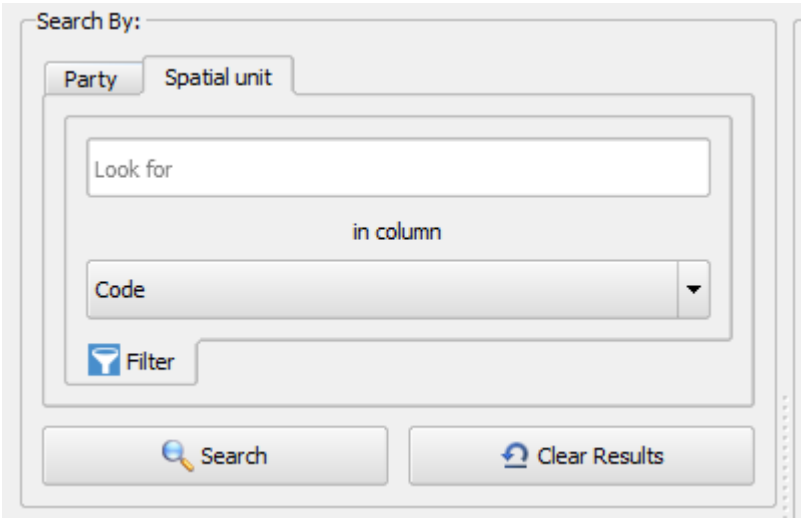
16. Click **OK**. Now you have created a social tenure relationship.


New Social Tenure Relationship
STR Definition Summary
A new social tenure relationship will be created based on the information that you have supplied, as summarized below.
If you want to review or change any selections, click Back. If you are satisified with the selections, click Finish.
Summary Information
Party Information
Family Name: Peter
Other Names: James
Address: 2342342
Gender: 1
Spatial Unit
Code: 105
Type: None
Geom Line: None
Geom Point: None
Social Tenure Relationship Information
STR Type: Individual owner
Source Documents
STR Creation
The social tenure relationship for has been successfully created!
OK
< Back
Finish
Cancel

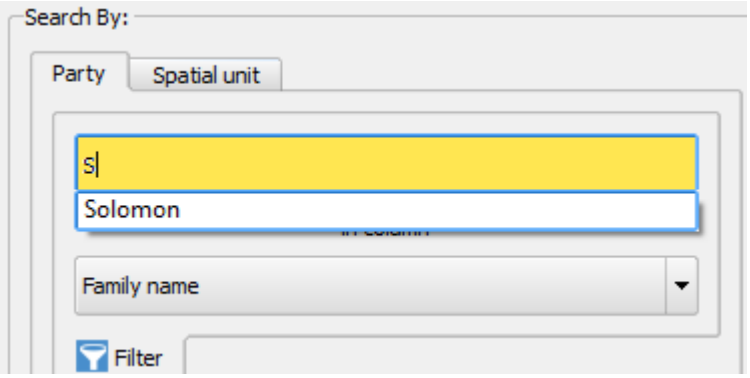
The information text above should appear confirming if the saving operation was okay.
Click OK to dismiss the dialog.

4.3.View Social Tenure Relationship

To view the social tenure relationship, click on the view STR button from the STDM tool bar.
This should start a view STR wizard where user can view the created relationship.



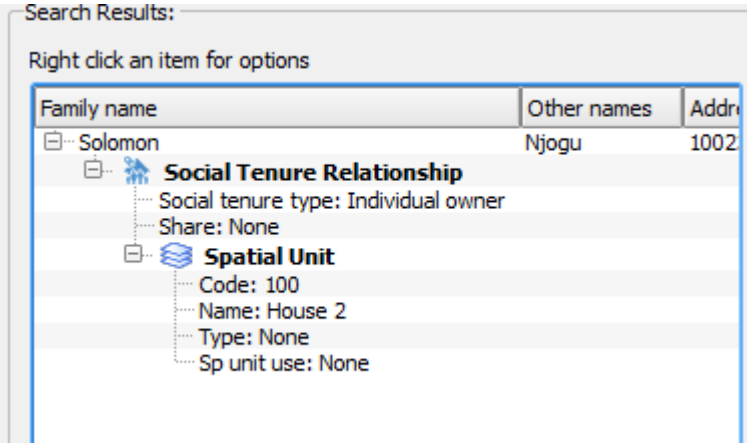
The table that were selected as str tables in the design form wizard will appear in tabular format as shown.
A dialog box appears to allow you to search for saved social tenure relationship. I.e. Search by party
2. On the name field, type down the occupant's name whose relationship was created



3. Click on the desired record from the search result.

4. Click search to view the social tenure relationship created

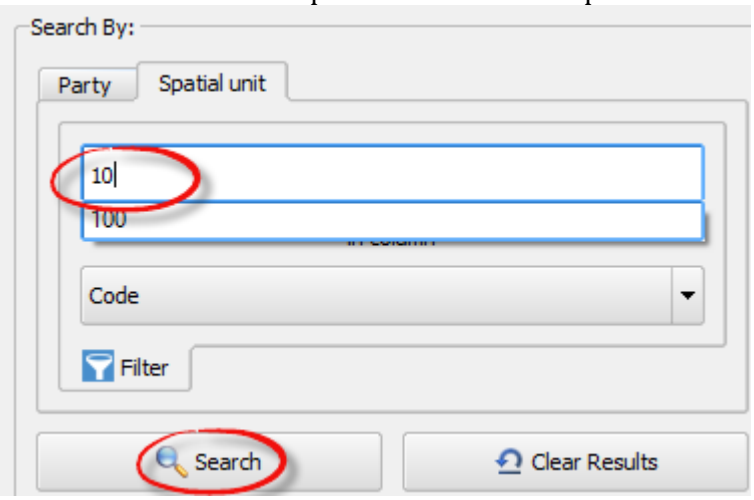
4. The search results will appear on a panel below with all the information of the party and spatial unit.



The STR view wizard also has an option to search the relationship by property information.

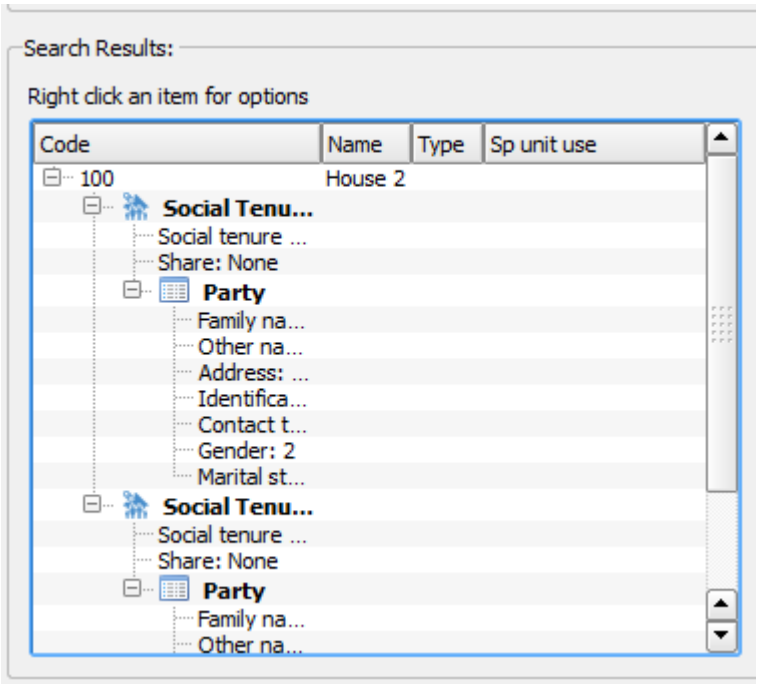
Search for social tenure relationship using spatial unit.

1. Select spatial unit tab
2. On the search textbox, enter the spatial unit code
3. Click Search button to pull all the relationship information from the database.

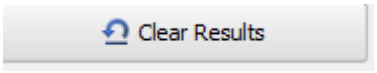


A tree view layout of the search result appears showing the social tenure relationship based on the spatial unit selected.

Expand the tree view nodes to see all the details.



5. To search a different social tenure information, click on the clear results button.



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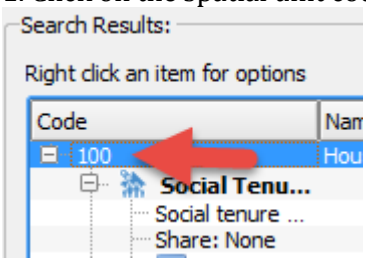
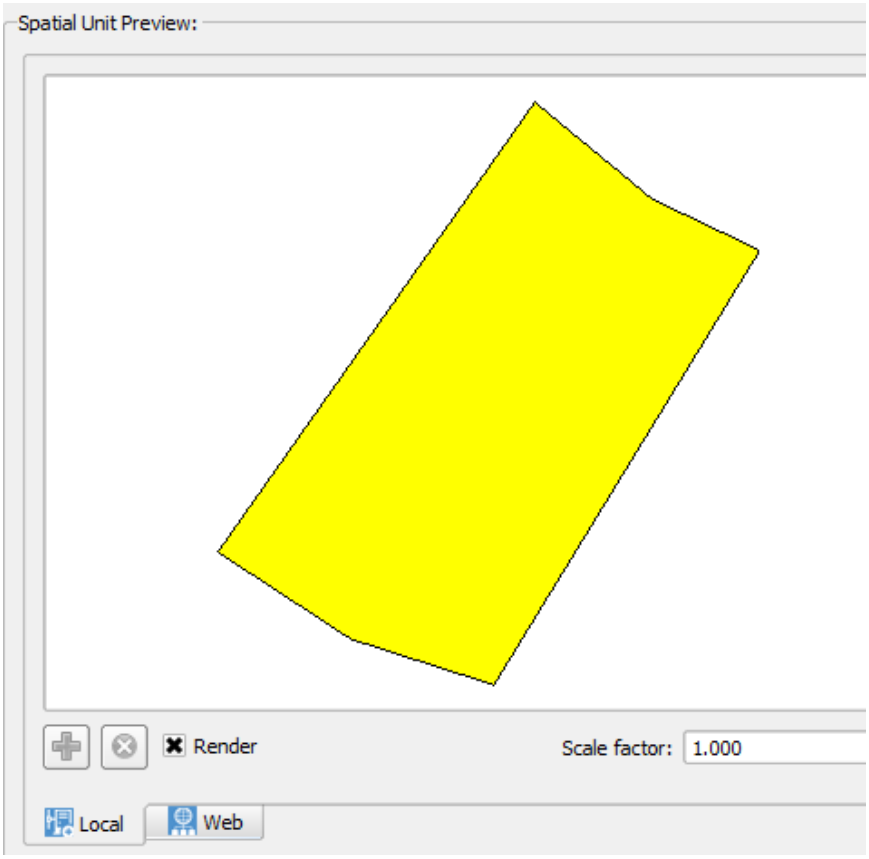
This will clear all the available information on the viewer panel and fields for a new search.

To view the selected spatial unit on the map.

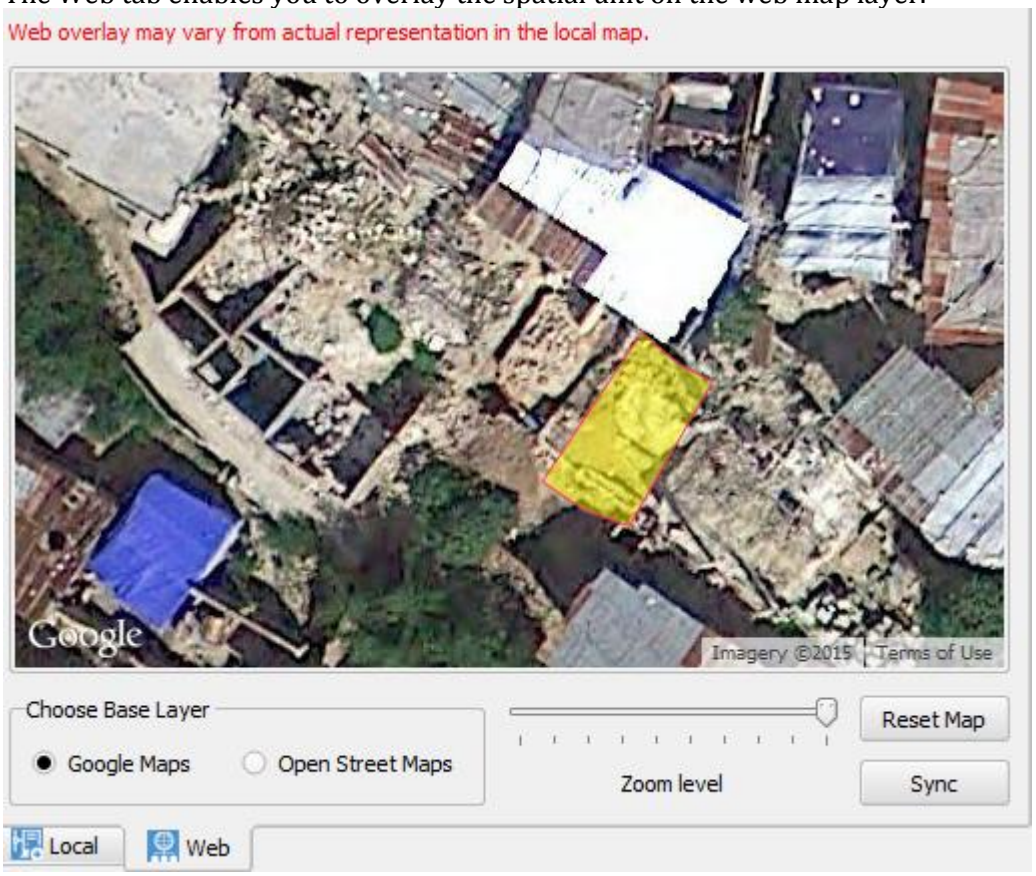
1. Click on the spatial unit code on the tree view area.



The spatial unit view area will project the geometry of the corresponding spatial unit form the database.



The local tab enables you to overlay the spatial unit on to an Imagery from the directory. (This should be loaded/ added on the qgis map canvas before opening the social tenure viewer.
The Web tab enables you to overlay the spatial unit on the web map layer.



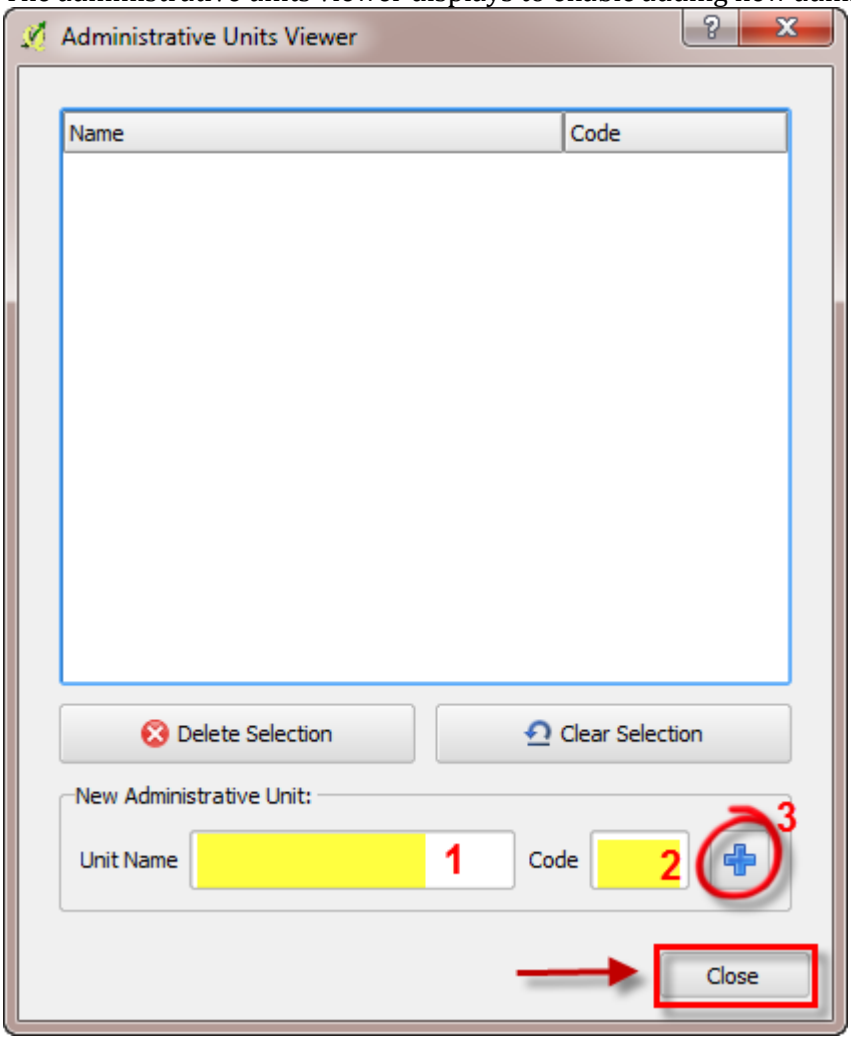
Reset map button allows to return to original zoom level once the zoom level has changed.
Sync button allows you to refresh the map with the currently selected details.
Click **Close** to exit the wizard

4.4.Managing administrative unit

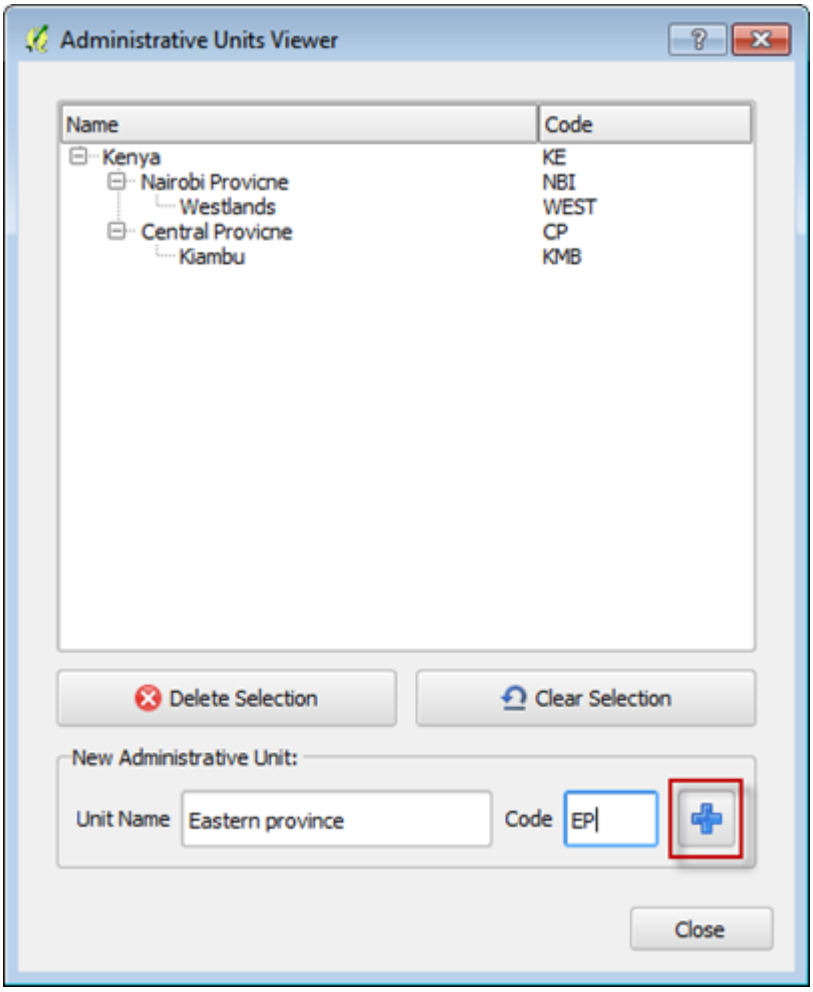
Administrative units are set up on a hierarchical/cascade structure. For example, from country to province, then district, division and location. This could also be explained as a form of a parent unit to a child unit relationship.

1. To access the administrative unit management, click on its button on the tool bar shown in a red box below.

The administrative units viewer displays to enable adding new administrative units



A sample of Administrative units prepared is as below

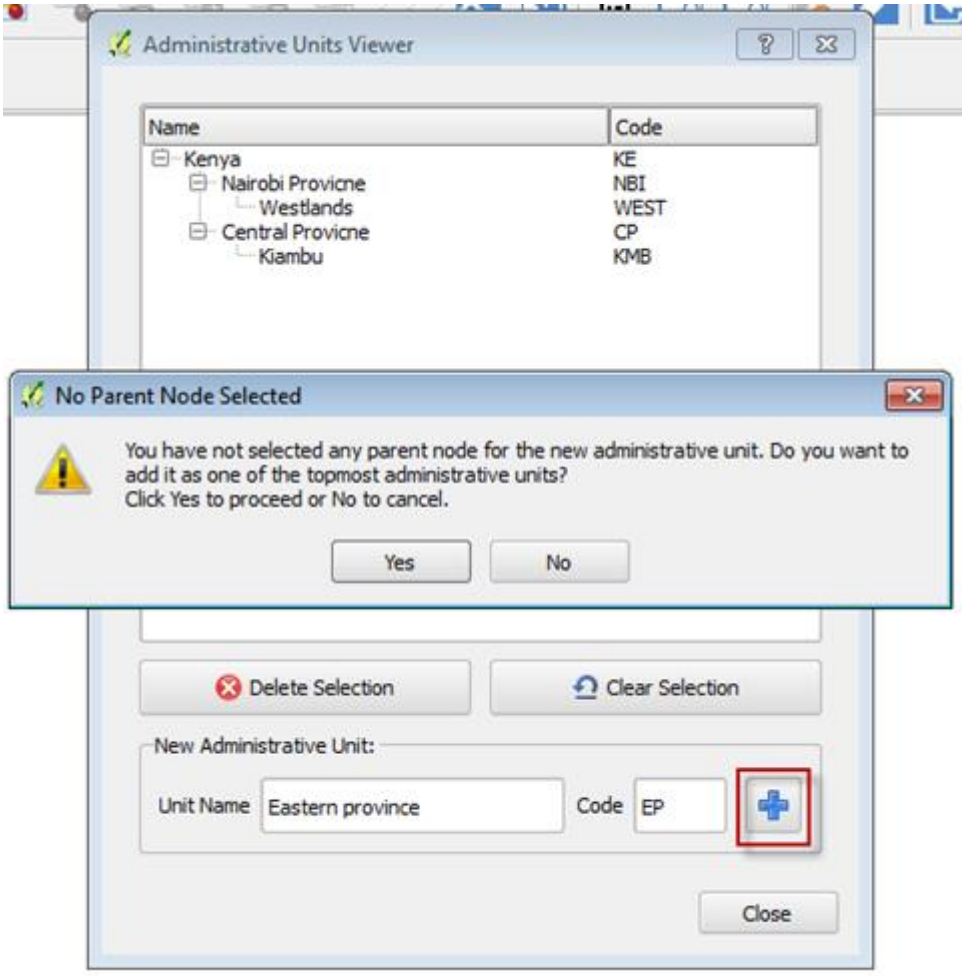


2. To set up a new administrative unit, type down its name and on the unit name field and its code on the code field.
The system sets a new unit as a parent unit if no existing unit is selected during a new unit creation.

If an already created unit is selected during creation of a new unit, the new unit will be the child unit and will appear below the selected unit.

3. If user intends to create a new parent unit when an already created unit is selected on the cascading view, click on the **'Clear Selection**, button on the management wizard to reset selection.

4. Next, click on the plus sign shown in a red box below to enter the new unit name and code.



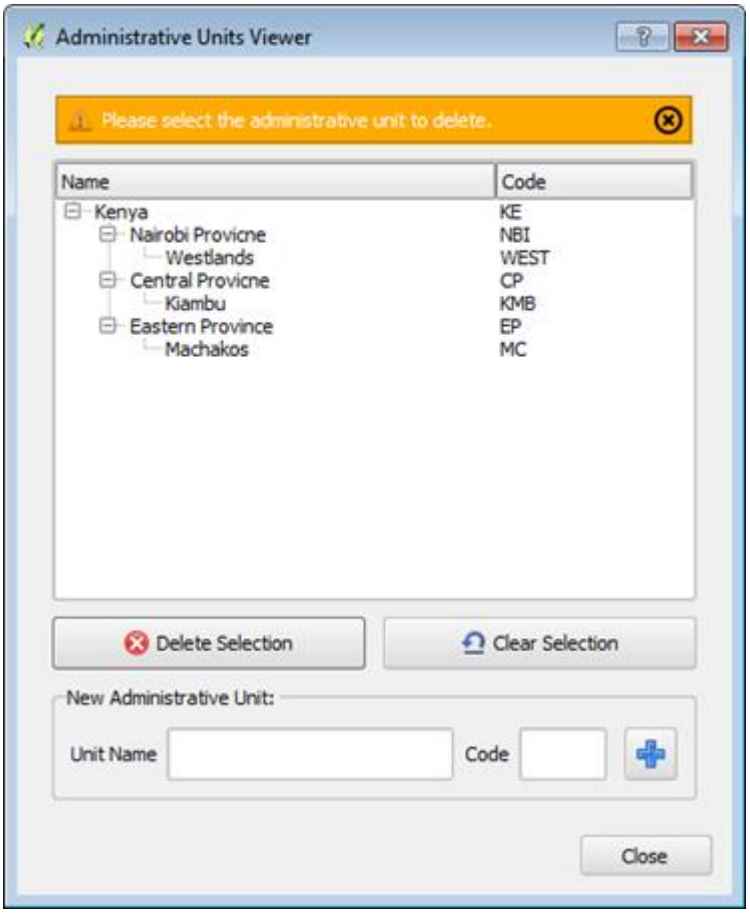
An alert message appears showing that the current unit will be a parent unit.To proceed, click ***Yes****.*

Deleting a unit.

The administrative units' viewer also has the option of deleting a unit.

1. To do this select on an intended unit on the unit cascade and click on **delete** selection.

If the selected unit is a parent unit, the delete action will erase the unit and its children unit(s) below it.


Administrative Units Viewer
Please select the administrative unit to delete.
Name
Code
Kenya
KE
Nairobi Provicne
NBI
Westlands
WEST
Central Provicne
CP
Kiambu
KMB
Eastern Province
EP
Machakos
MC
Delete Selection
Clear Selection
New Administrative Unit:
Unit Name
Code
Close

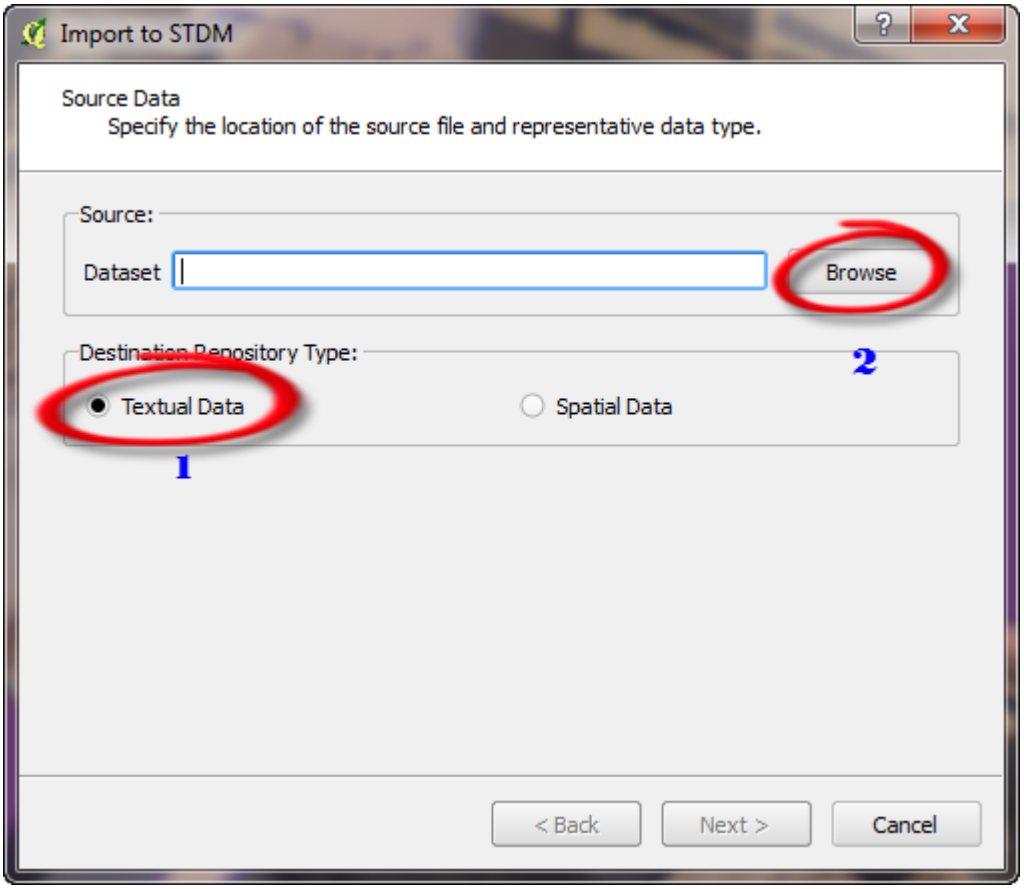
5. Managing data Import/Export

5.1.Importing Attribute Data

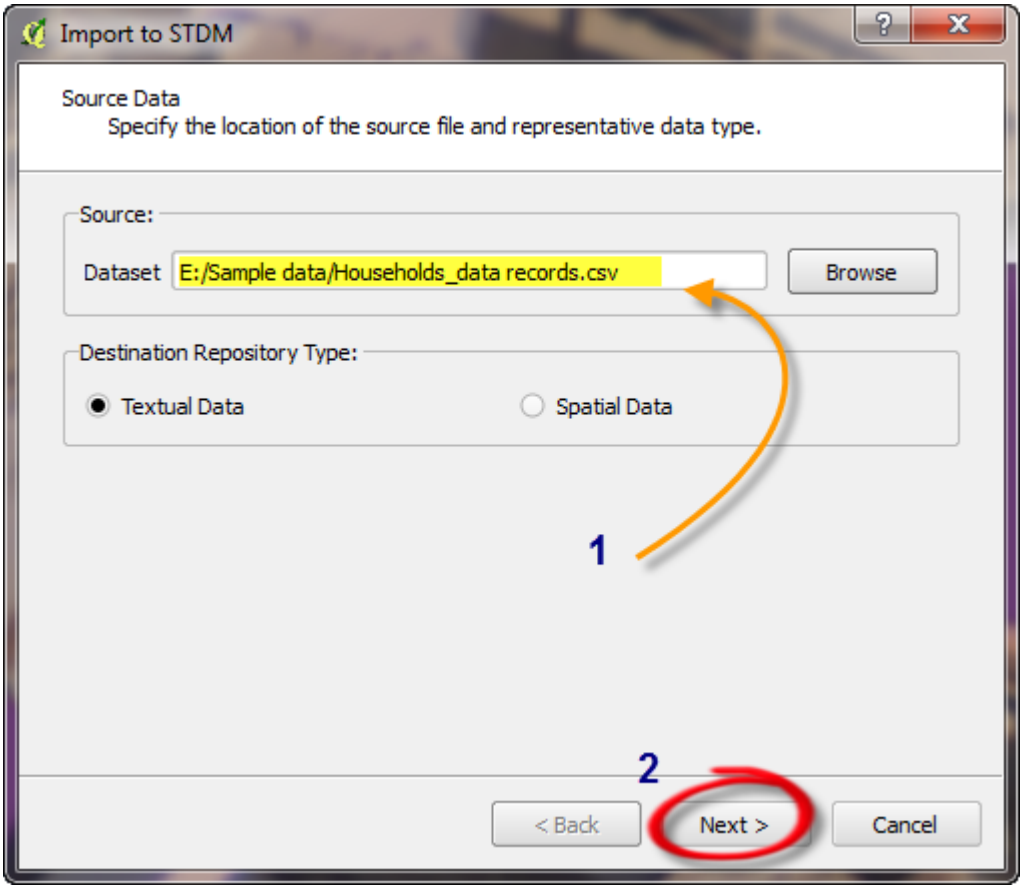
Attribute data here refer to the non- spatial data imported into the STDM database. Attribute data for instance may refer to Party Records. The process of data import is similar for all modules.

Before importing, make sure that you are **loged in**, QGIS is running and STDM tool bar is active.

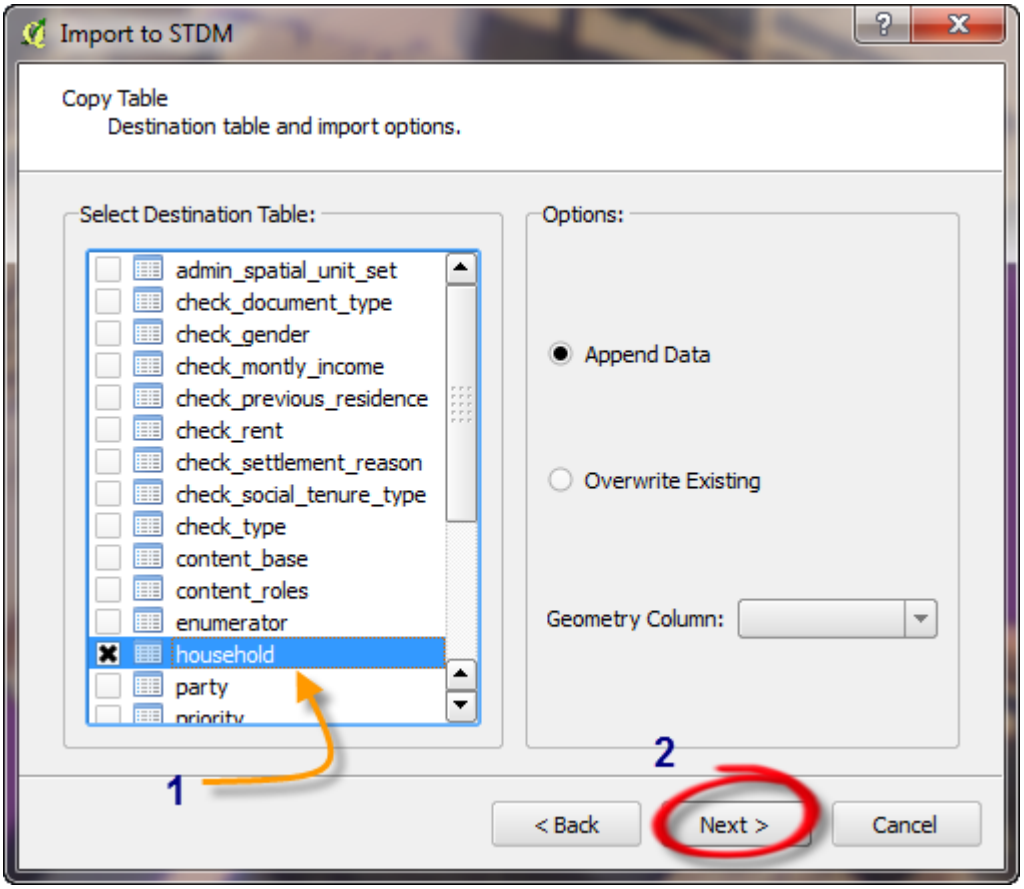
1. Click on the **Import Data button** on the STDM tool bar as shown below.



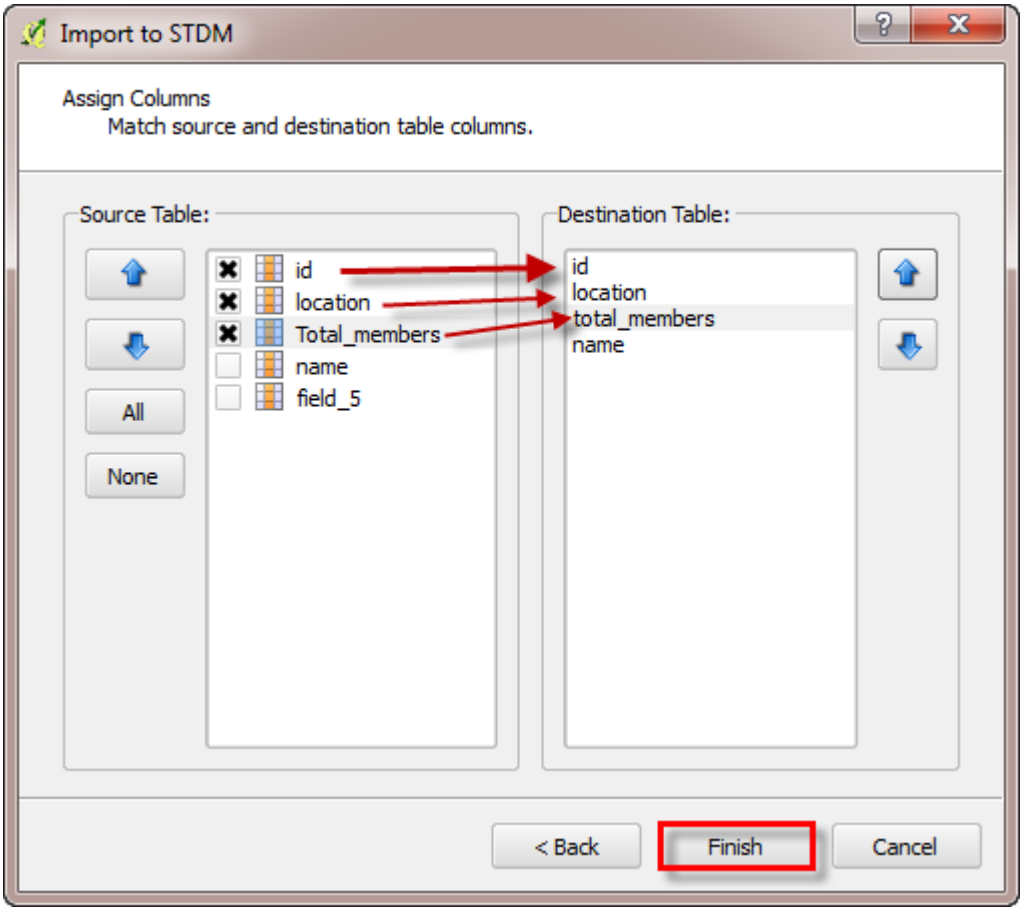
2. Browse to the location of file (excel file) in the directory



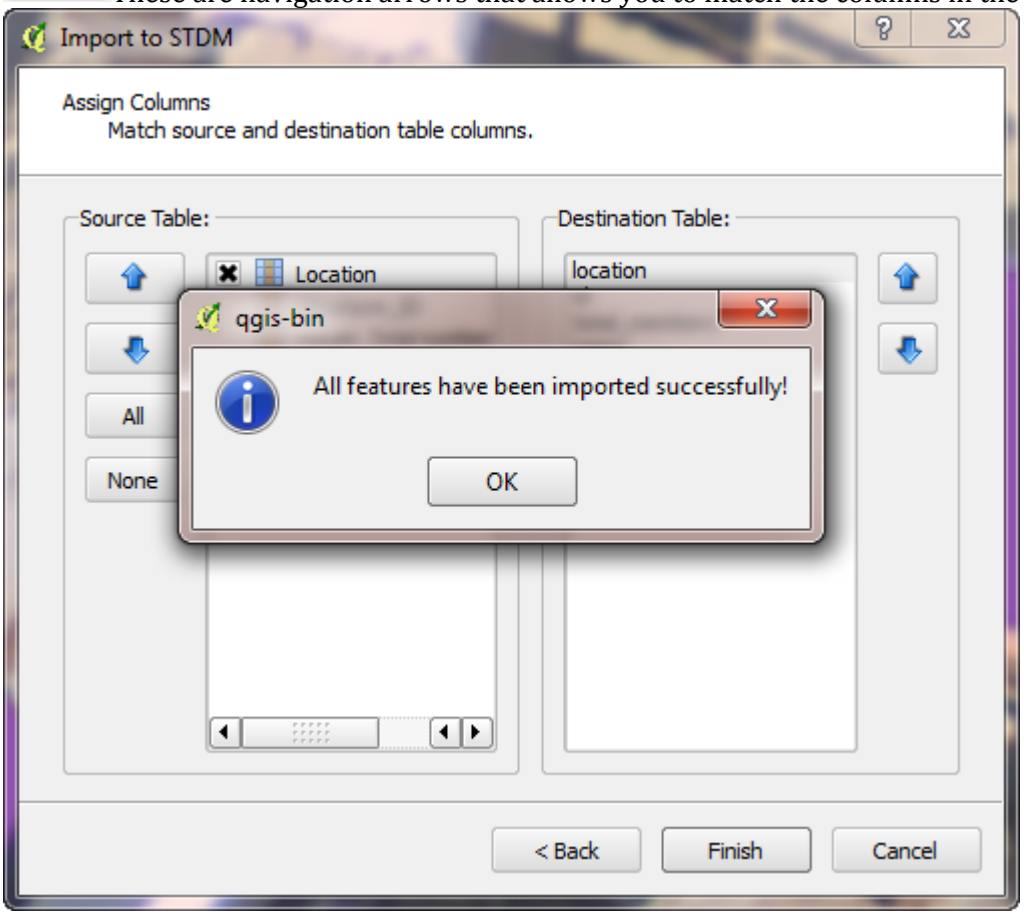
3. Click Next
3. Select the destination table



5. Perform source column to destination column matchning for the required field
6. Click Finish to import the data.



These are navigation arrows that allows you to match the columns in the two panels



5.2.Importing Spatial Data

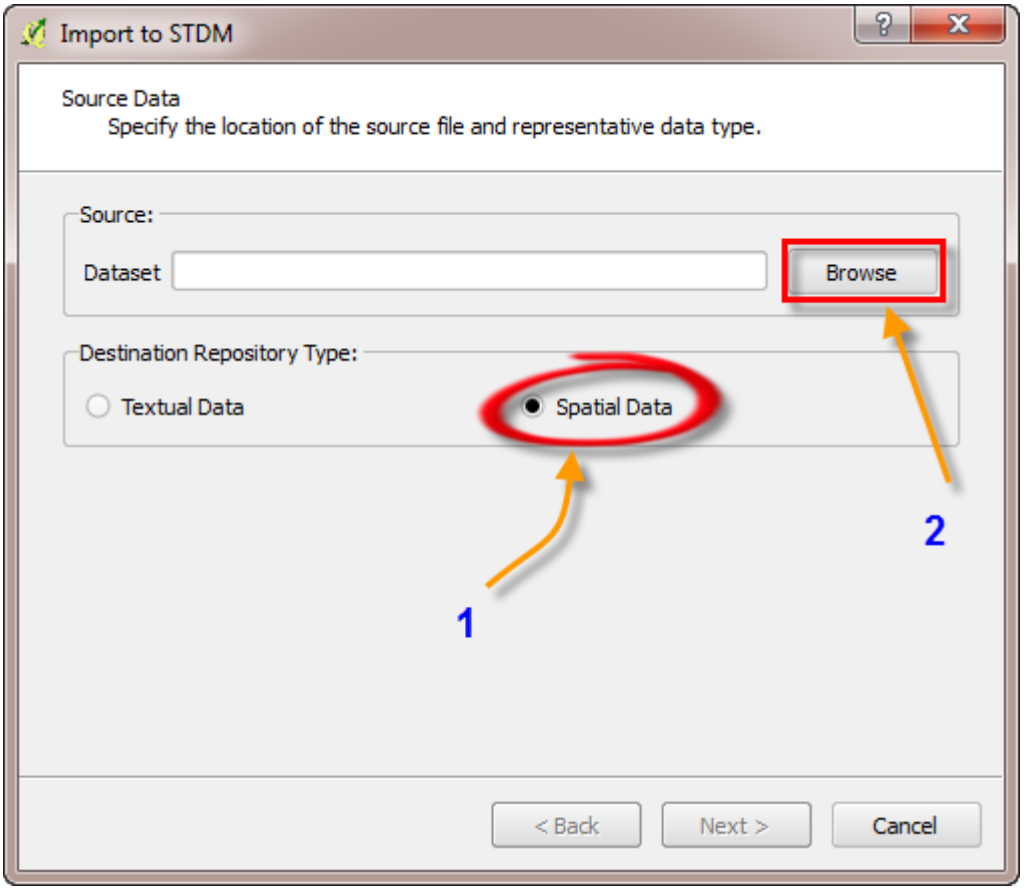
Spatial Units can be imported into the STDM database from a shape file, AutoCAD or comma separated values.

1. To import, clicking the button on the QGIS window interface.

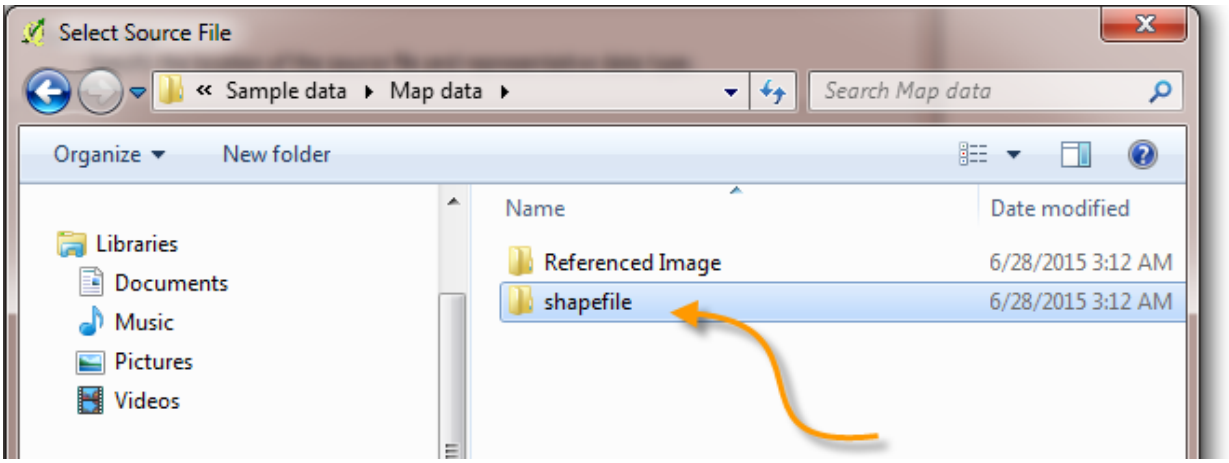
A dialog box appears allowing you browse to the source folder of the data to be imported.

2. Check the "**Spatial data**" circle to enable/activate it.

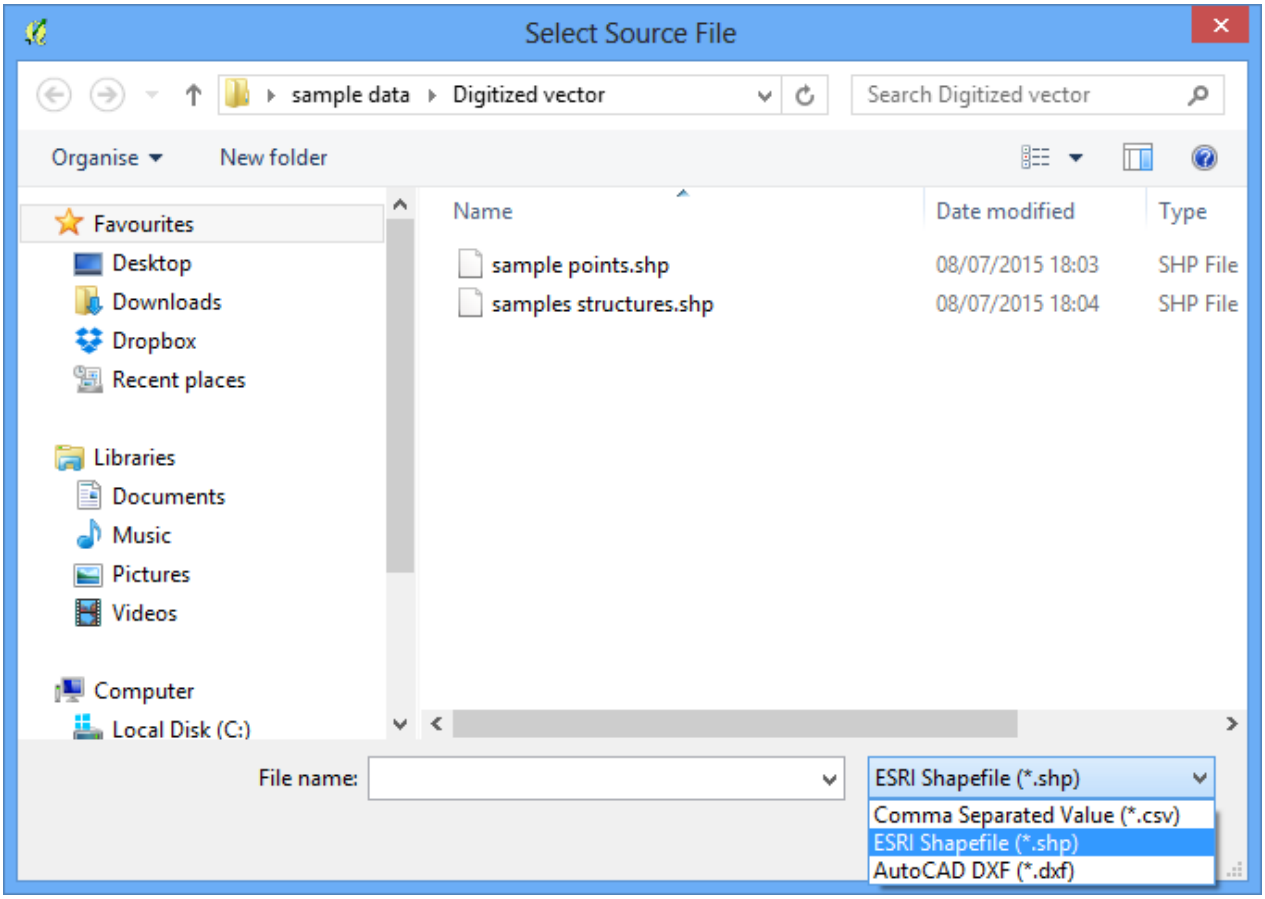
3. Browse to the folder where the shape files (spatial data) is stored.



4. Go to the "**Sample data**" folder⇒**Map Data**⇒and select **shape files** and open the shape files

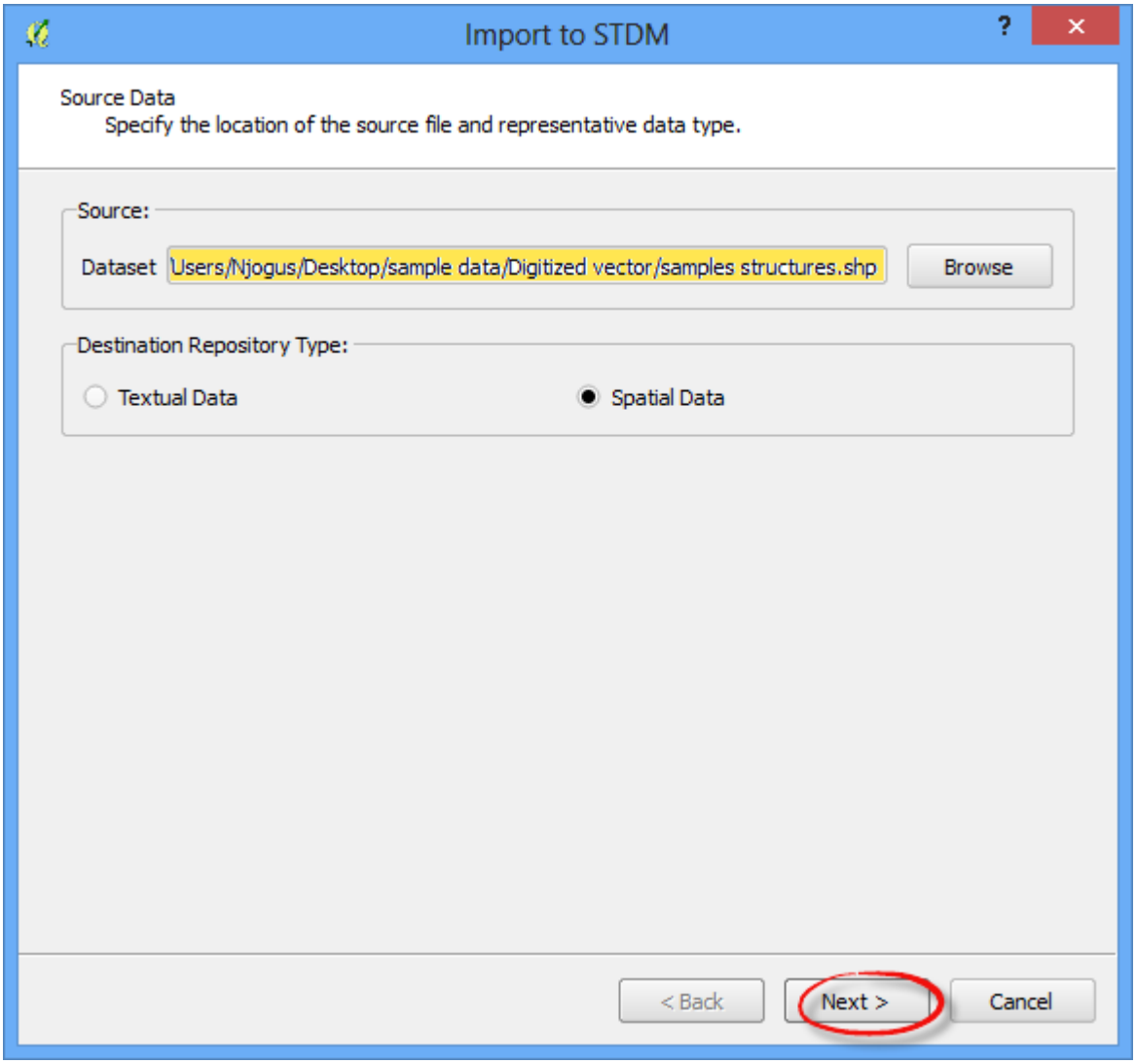


If nothing is displaying on the opened folder, make sure that the file format is in **ESRI Shapefile (*.shp)** *as shown below;*



5. Select the file and Click **Open**

6. Click **Next** to continue

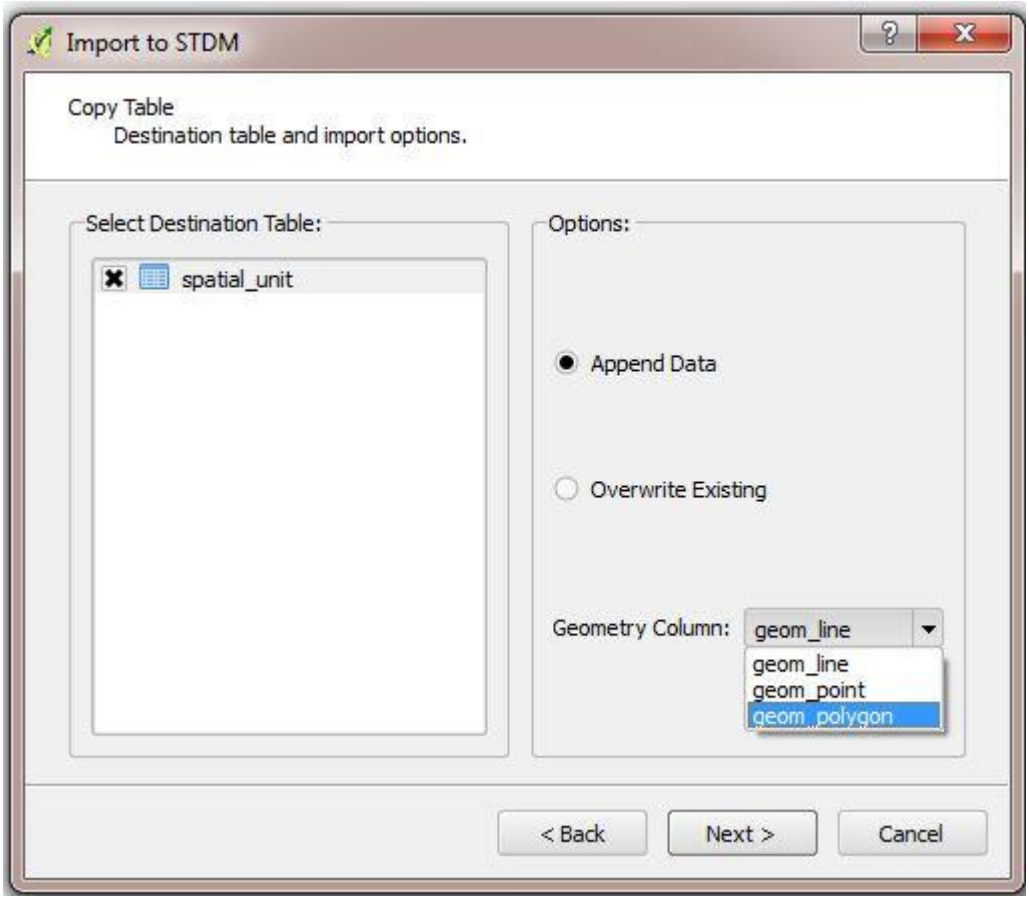


A dialog box appears allowing you to specify the **destination table** and the **Geometry** of the data being imported.

7. Select the destination table of the data by checking/enabling the **Spatial_unit.**

8. In the Geometry Column, a drop down list allows you to choose the data type of you data. Select **"Polygon"**

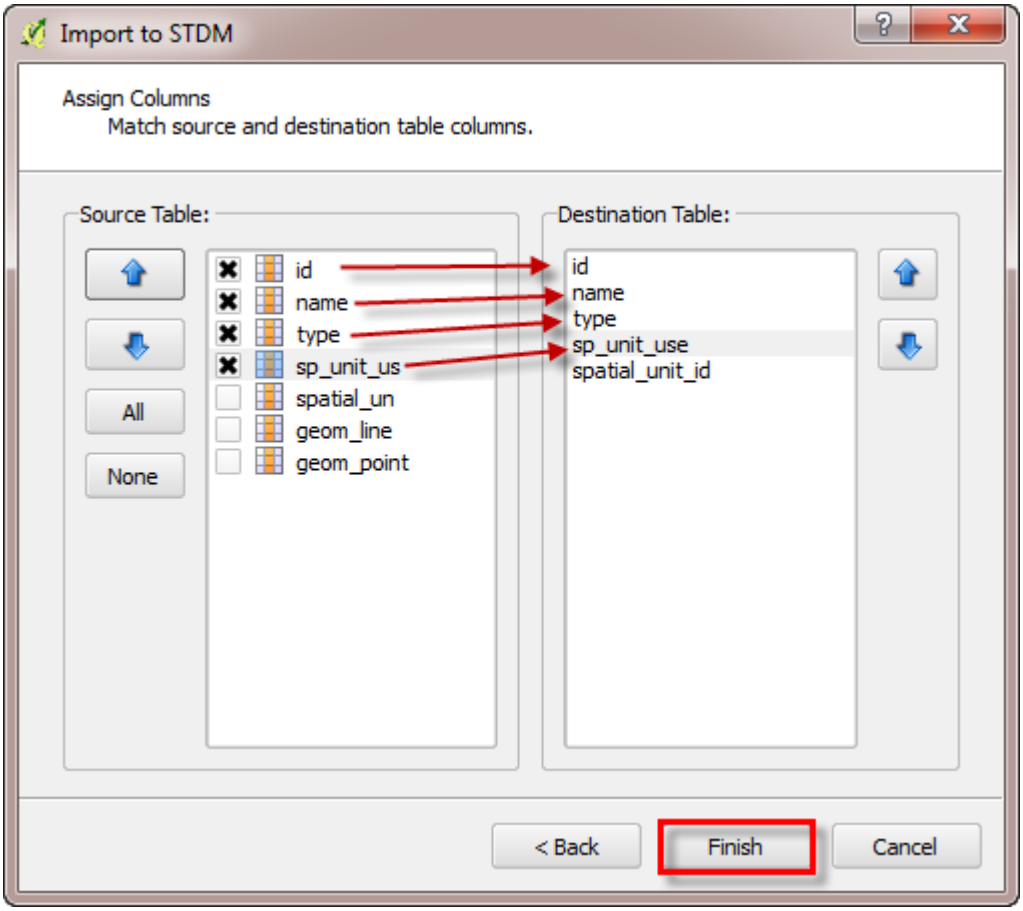
9. Click **Next** to continue



A dialog box appears allowing you to match source and destination table column. Use the "UP" and "DOWN" buttons to match the columns.

Note: Do not select 'id' field on the destination table. This is created by default

10. Click ***Finish***



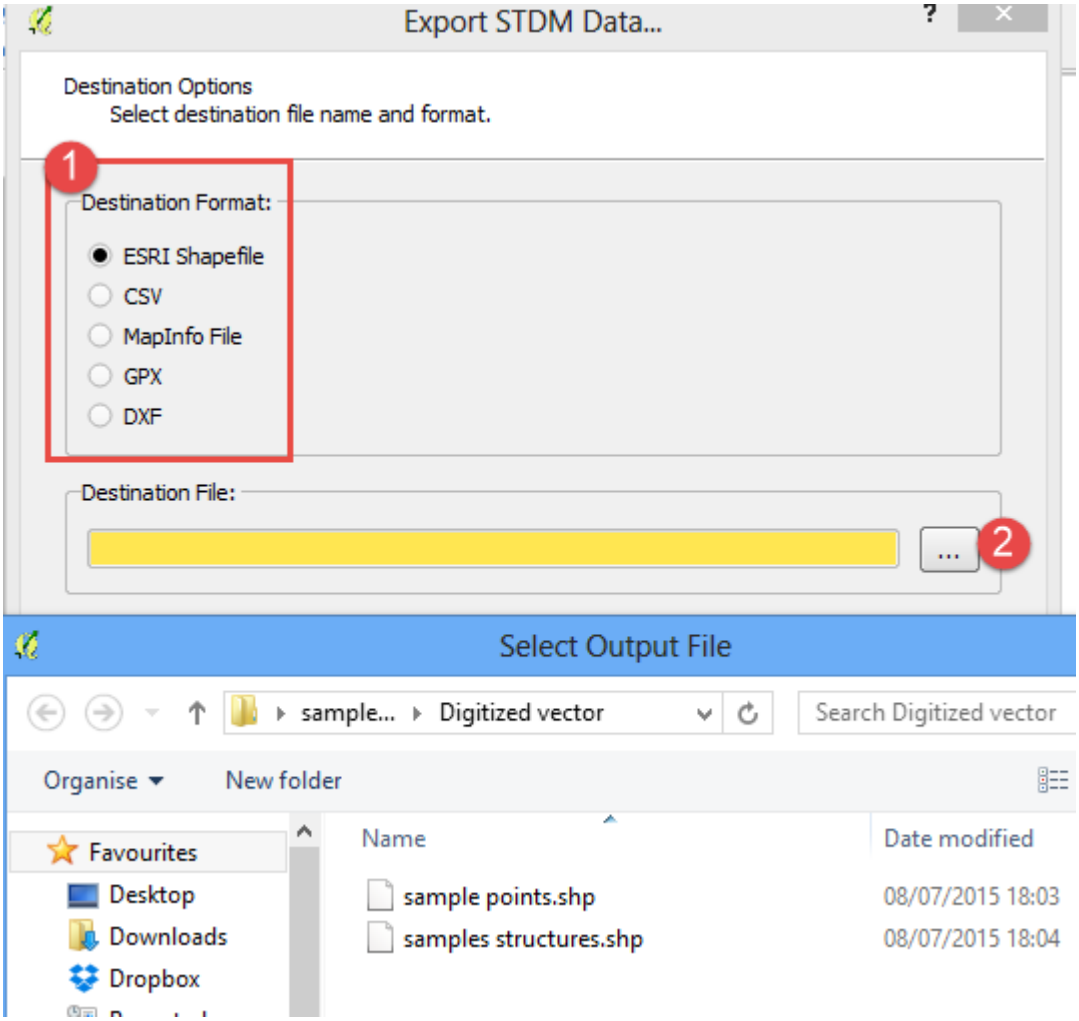
The spatial units have now been imported into the STDM database.

A notification will pop up showing you that the data has been imported successfully

5.3.Export Data from the STDM

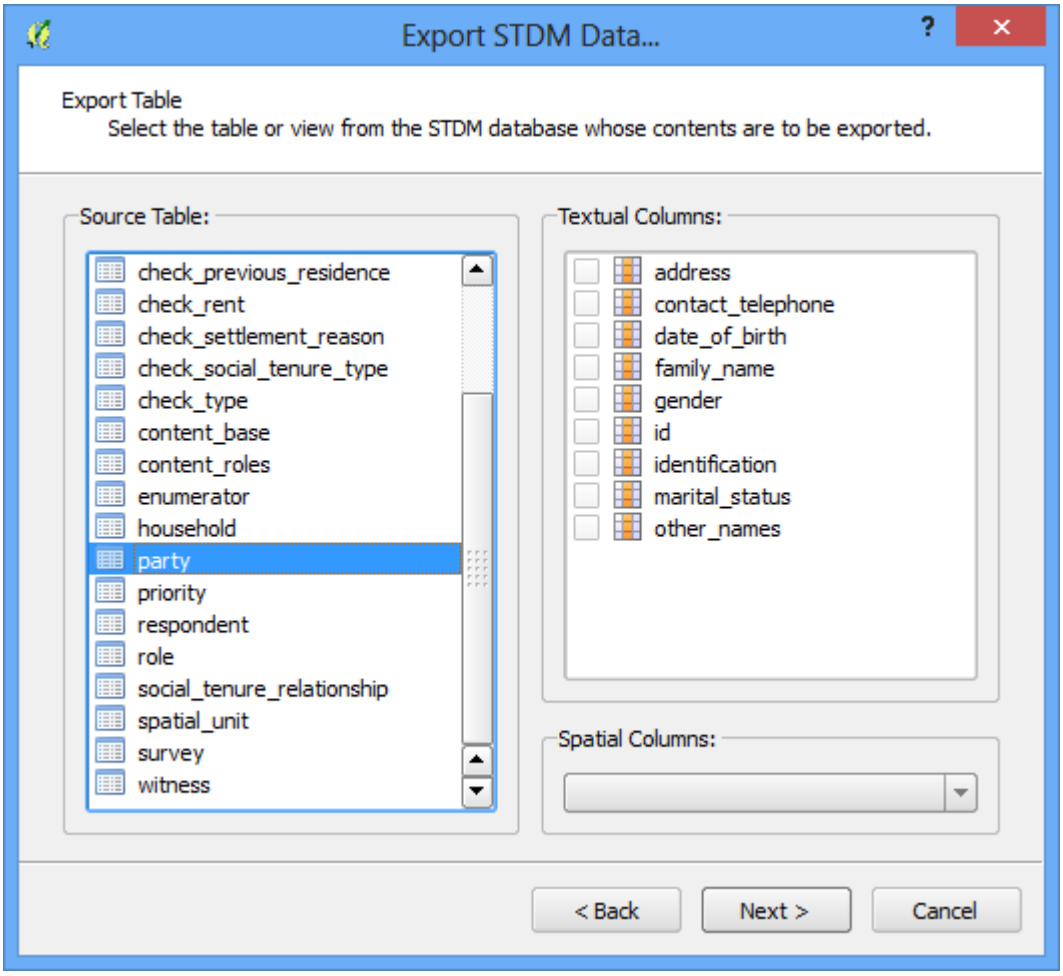
1. Select Export Data command item from the menu.

2. An export STDM Data pops up allowing you to choose the **destination file** and **format**.



3. Select the destination format from the list.
4. Browse to save location of the file (Destination File)
4. Enter a name for the file to be create.
5. Click **Save** on the file save dialog

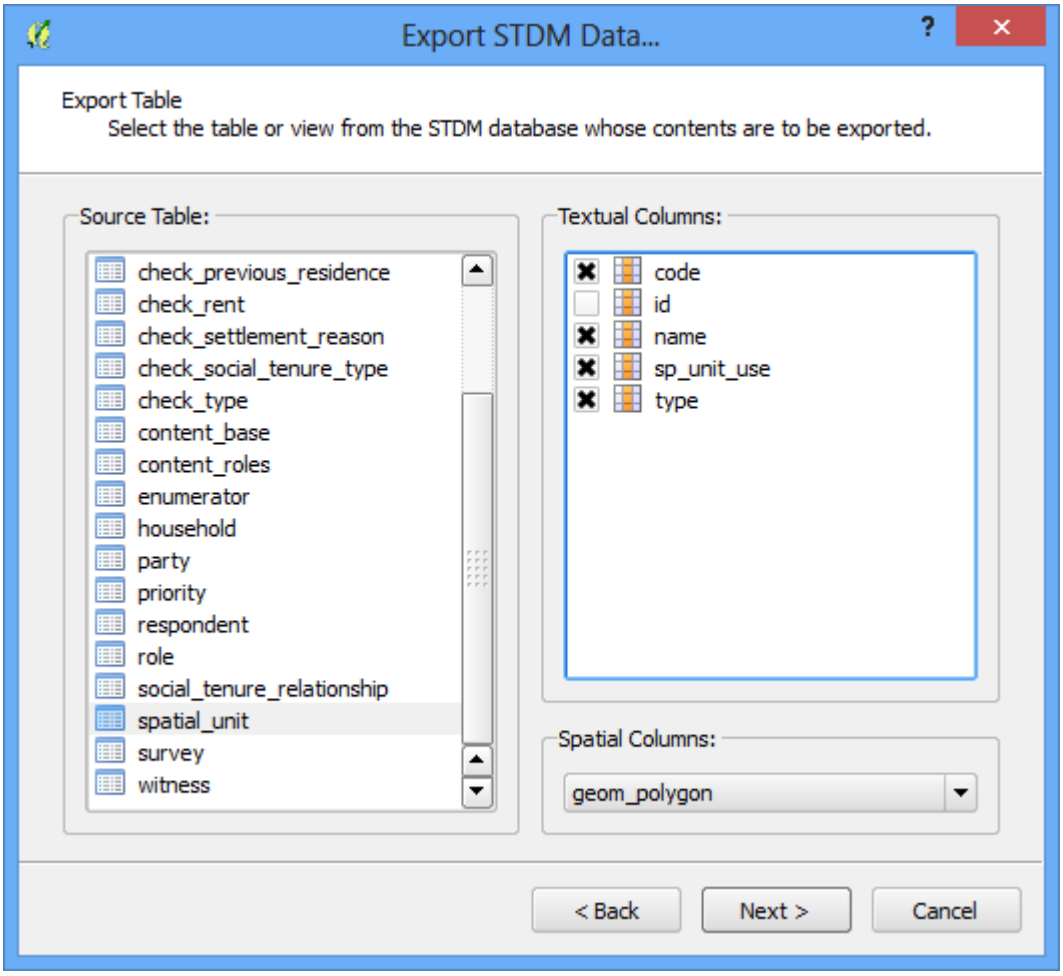
6. Click **Next** to proceed.



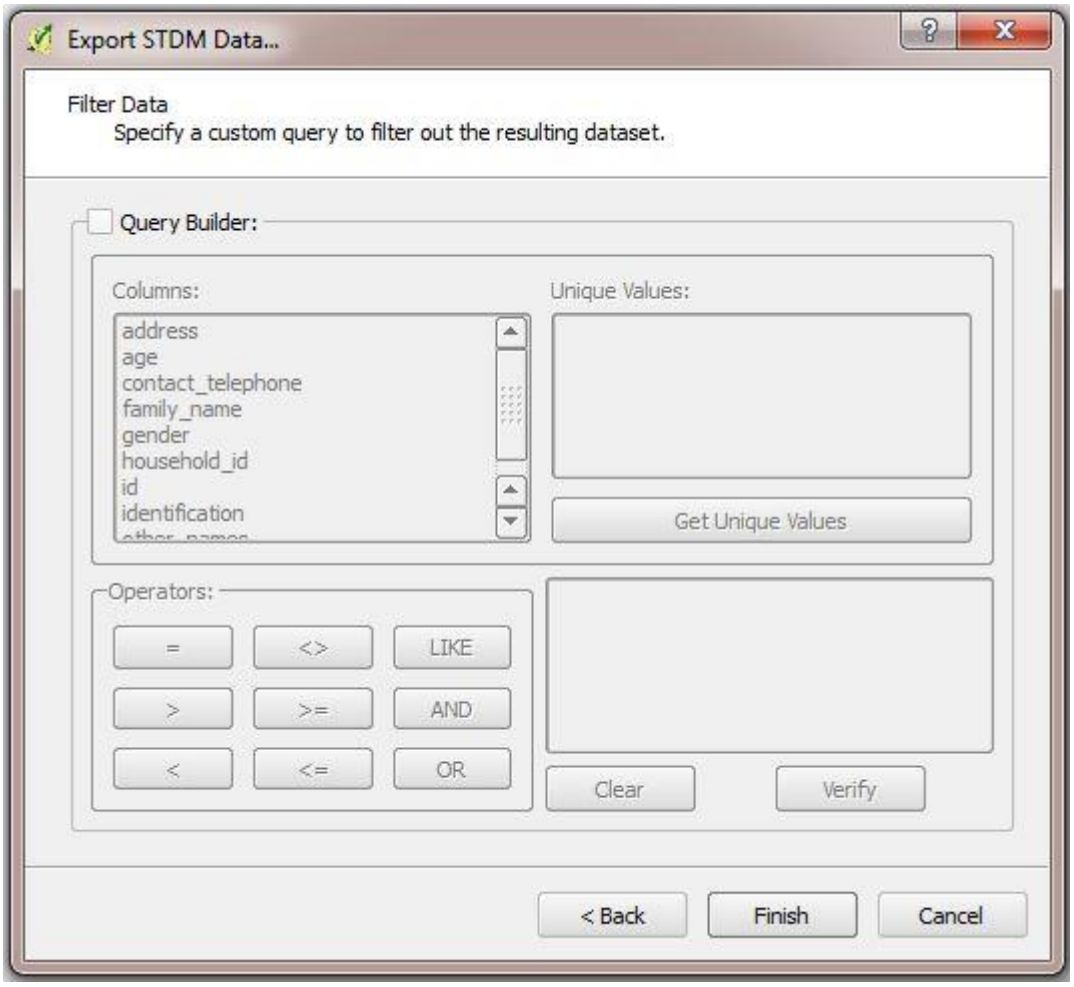
7. Select from the left **Source table,** table data to be exported
8. Check by marking the **textual columns** you wish to be exported on the right.
8. Click **Next** to proceed.

9. Likewise, when exporting spatial data, Select it in the data **source table** and select the required fields (**Textual columns** in the right side) that will appear on the final generated file.

If the data source table has geometry columns, the geometry column to be exported need to be selected
10. Click **Next**



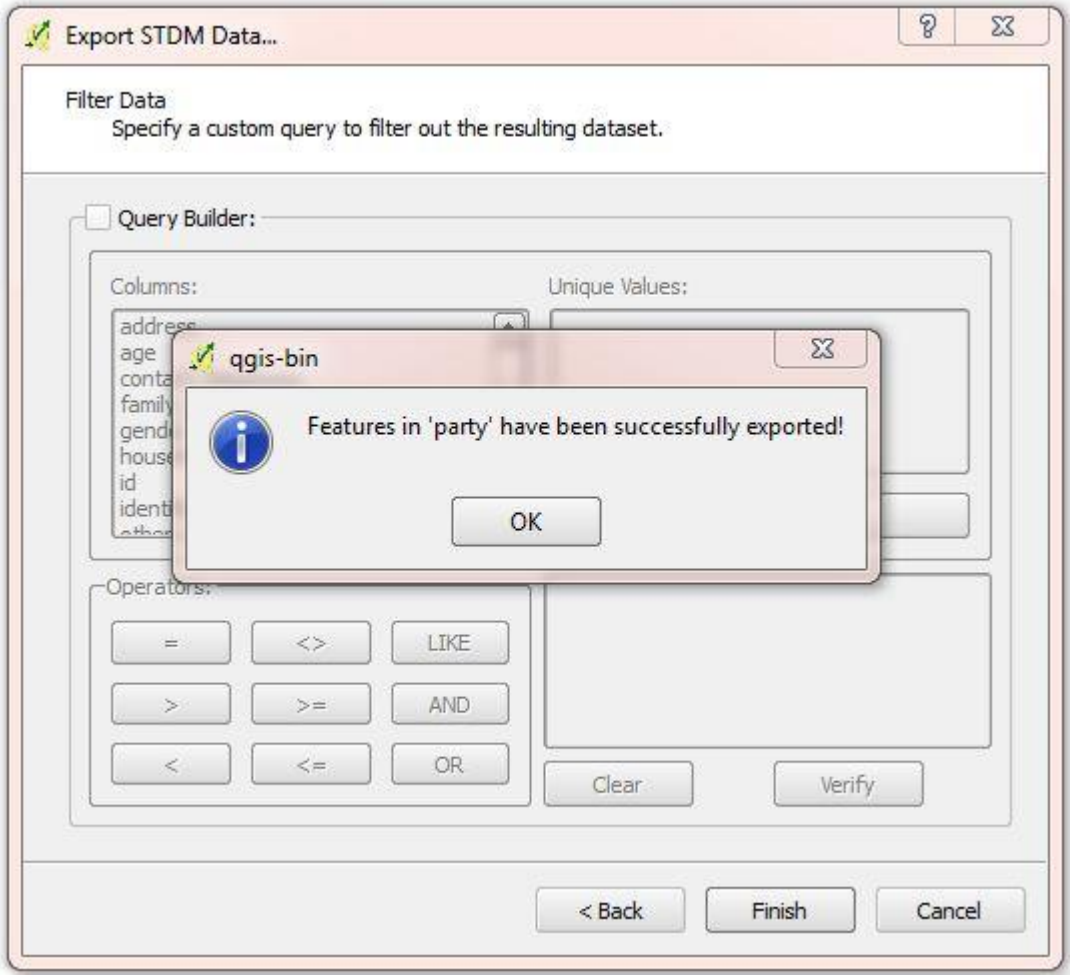
If specific queries need to be implemented on the resultant data, they can be specified using the query build in the next page as shown below.
If no queries are required, clear the query builder check box.



11. Click **Finish**.

A message box will prompt the response when the action is completed. dismiss the dialog.

Browse to the location of the file to see the results. If you are not satisfied with the result, the process can be repeated with new options.



12. Click **OK** to finish the process

6. Spatial Unit Manager

The Spatial Unit Manager has two main features; **Manage Layers** and **Import Layers**

Manage Layers

Enables user to:

- List spatial layers from STDM database, i.e. database table that contain geometry column, the list should contained specific icon for respective layers, i.e. point, line and polygon or table.
- Loading of the listed spatial layers to QGIS canvas.
- Change display name of loaded features, this is a profile name, which is not stored in the database, but on a configuration file inside QGIS local settings file.

This dock able window on the left of QGIS canvas is shown by default, though it can be toggled using the spatial unit manager icon

Listing of STDM spatial layers

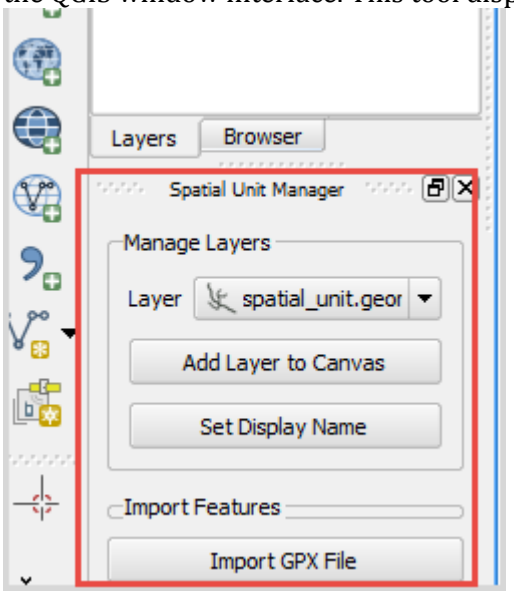
Shown when combo box is selected. User can select any layer and it will be the active layer to be loaded to QGIS canvas.

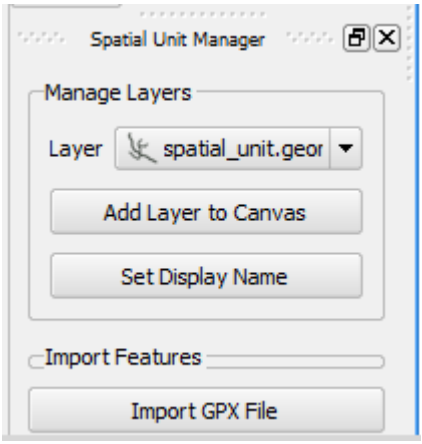
6.1.Managing Spatial unit module

Spatial units are categorized into three:
1. Land as part of the settlement land (parcels)
2. Buildings (Existing structures that were counted)
3. Other object that may have been captured.

The default spatial unit layer has three geometry columns which enables you to load the same layer three times for different geometry.
Also, the data will be stored in the same layer without any conflict.

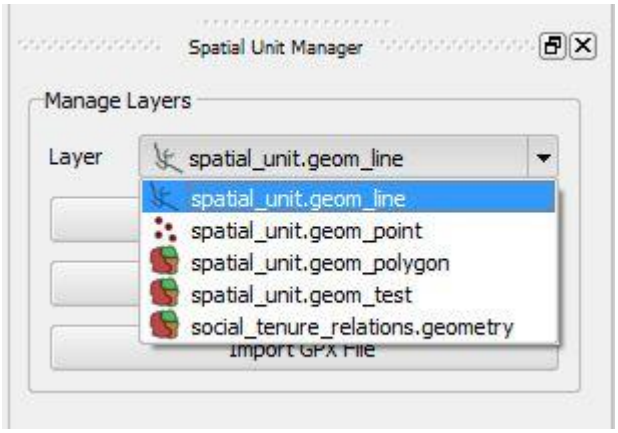
You will access the Spatial Unit module through the **Spatial Unit Manager** at the bottom-left side of the QGIS window interface. This tool displays automatically after you Login.

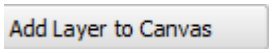




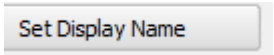
The spatial unit manager allows you to perform several tasks:

1. *The layer selection combo box allows you select geometry layer from the database. For example, a point feature, line or polygon feature.*

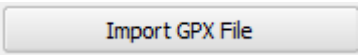


2. *The* 

allows you to add the selected layer to the layer panel of QGIs for further data editing and viewing.

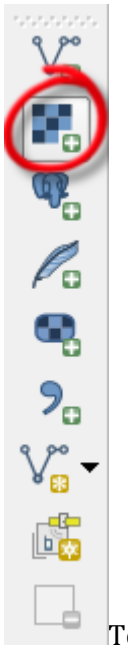
3. *The* 

allows you to edit the name of the selected spatial layer to a more friendly name.

4. *The* 

allows you to import data directly from a GPS.

6.2.Adding Imagery data

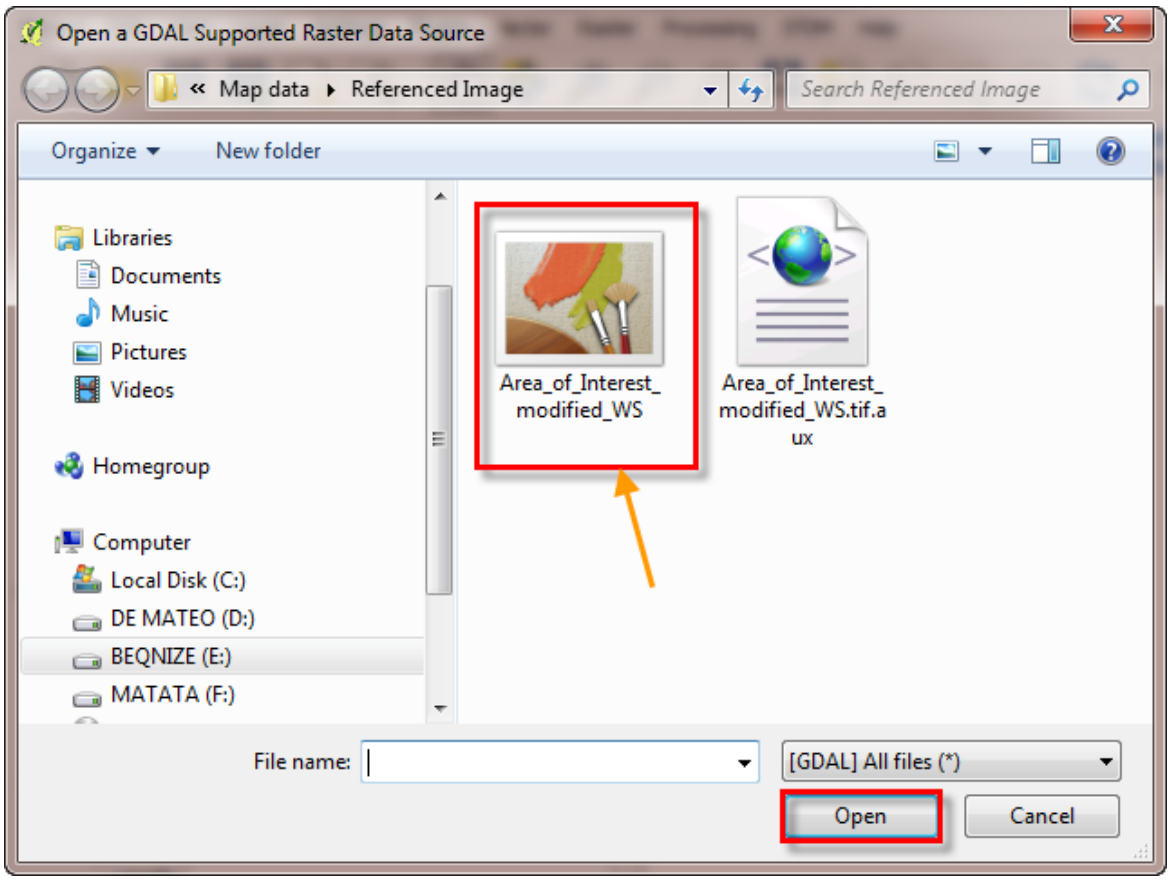


To add Imagery data to the Canvas, click "**Add Raster Layer button**" to add the imagery data into the canvas

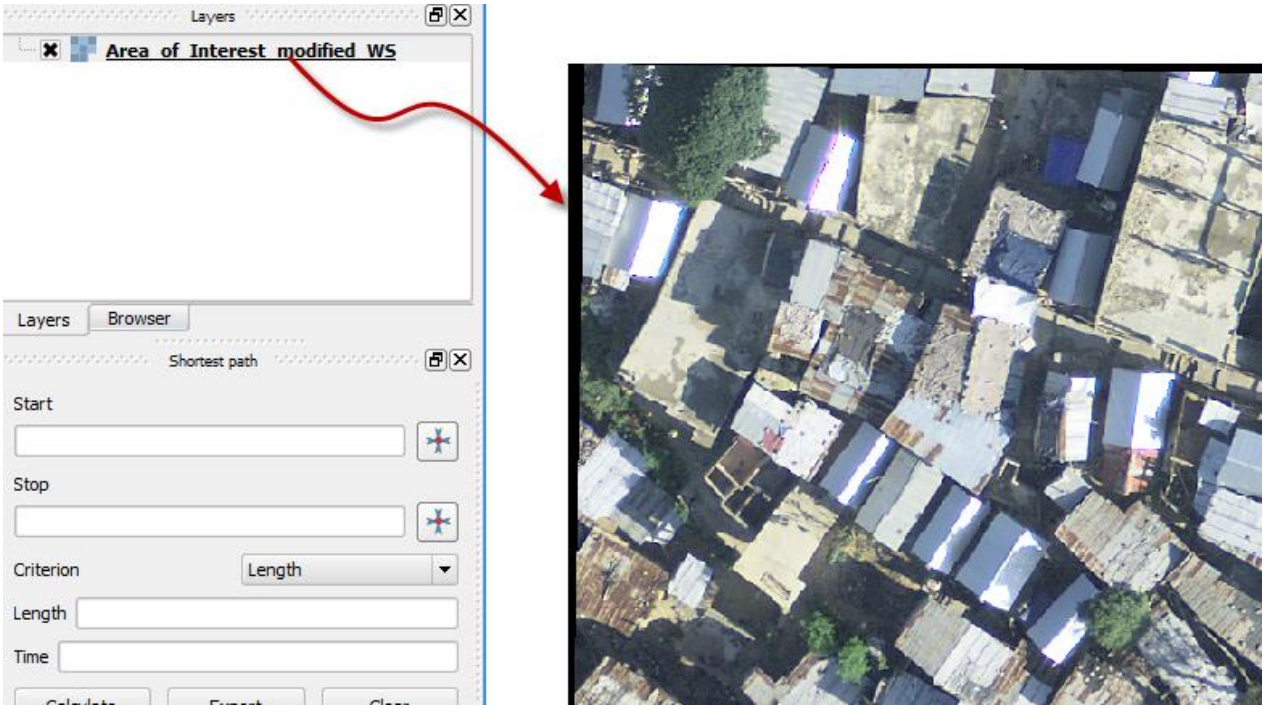
2. Browse to where the imagery data source is

3. Select the imagery data.

4. Click **Open** to add it to the canvas



The Imagery data appears on the window as shown below.



Some of the tools that you can use to move the imagery data are;

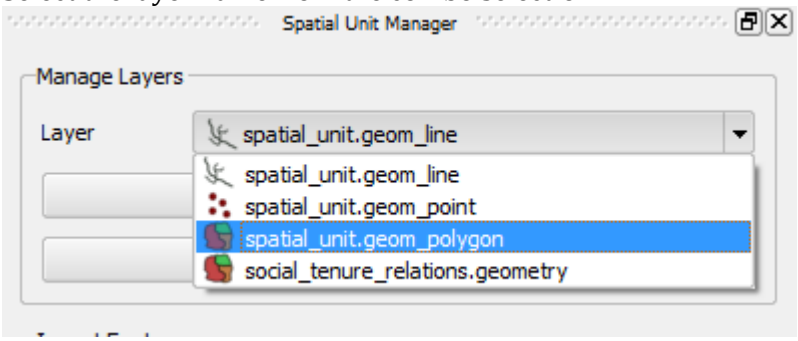
used to Pan the map to a position you wish

helps when you want to zoom in a working area of interest

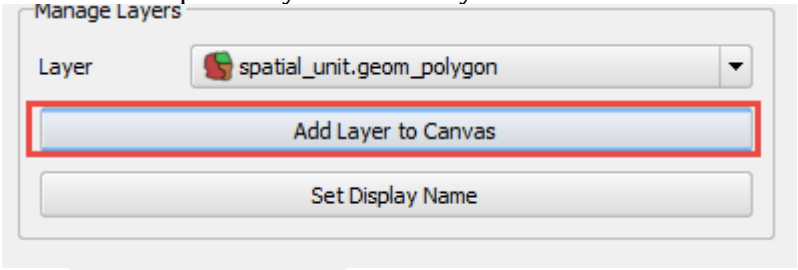
helps the user to zoom out on the map

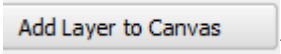
6.3.Adding spatial unit layer

To add a particular spatial unit layer on to QGIS canvas,
Select the layer name from the combo selection.

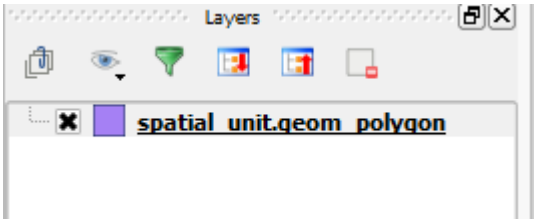


Ensure the required layer is currently selected on the combo.



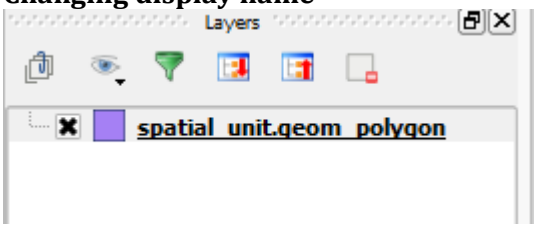
Click 

to add the layer on to QGIS.



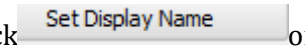
6.4.Renaming spatial unit layer

Changing display name

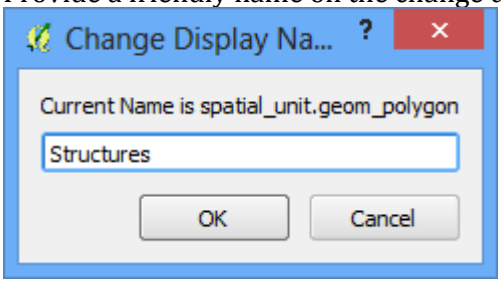


Supposing the added geometry layer is the one above.

The existing name of the layer loaded to the canvas is not very appealing. To set a friendly display name, ensure the layer is selected.

Click 

on the spatial unit manager.
Provide a friendly name on the change display name dialog.



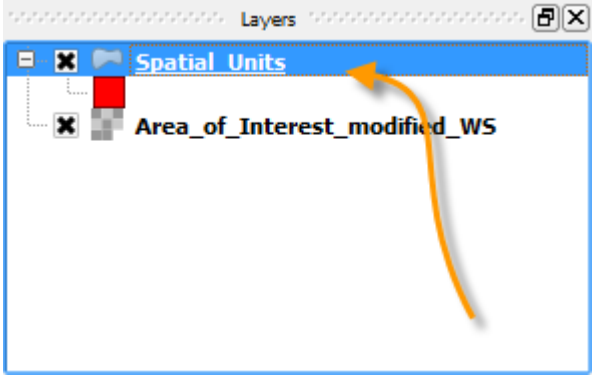
Click Ok to change the name.

Note: this only applies to layer in STDM database only.

6.5.Digitizing into spatial unit layer

Adding new record of spatial unit entails digitizing the structure from a base map imagery.
Ensure the Imagery or base map file is added on QGIS map canvas
Steps:

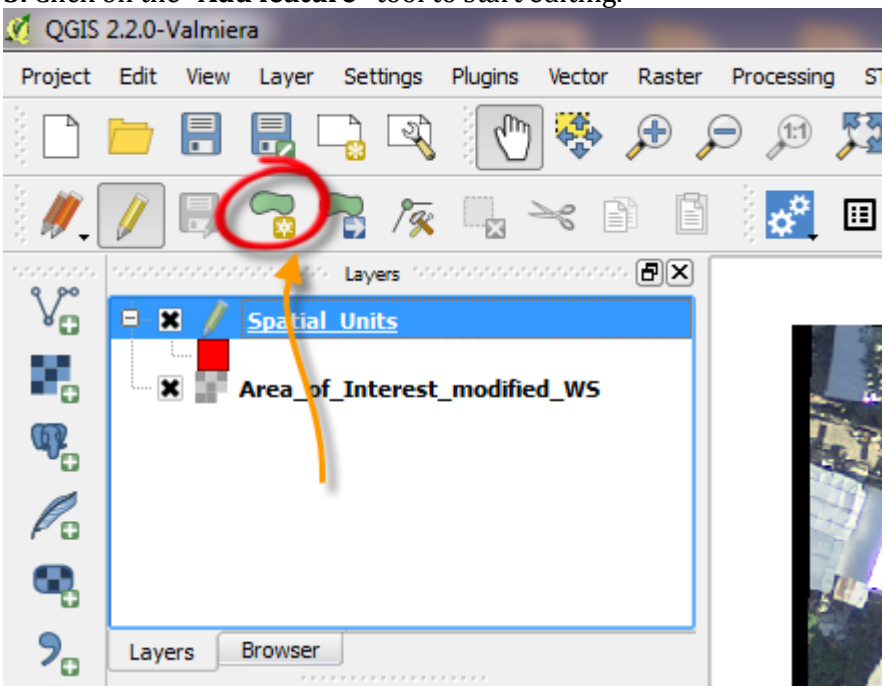
1. Select the spatial unit to digitize features into.



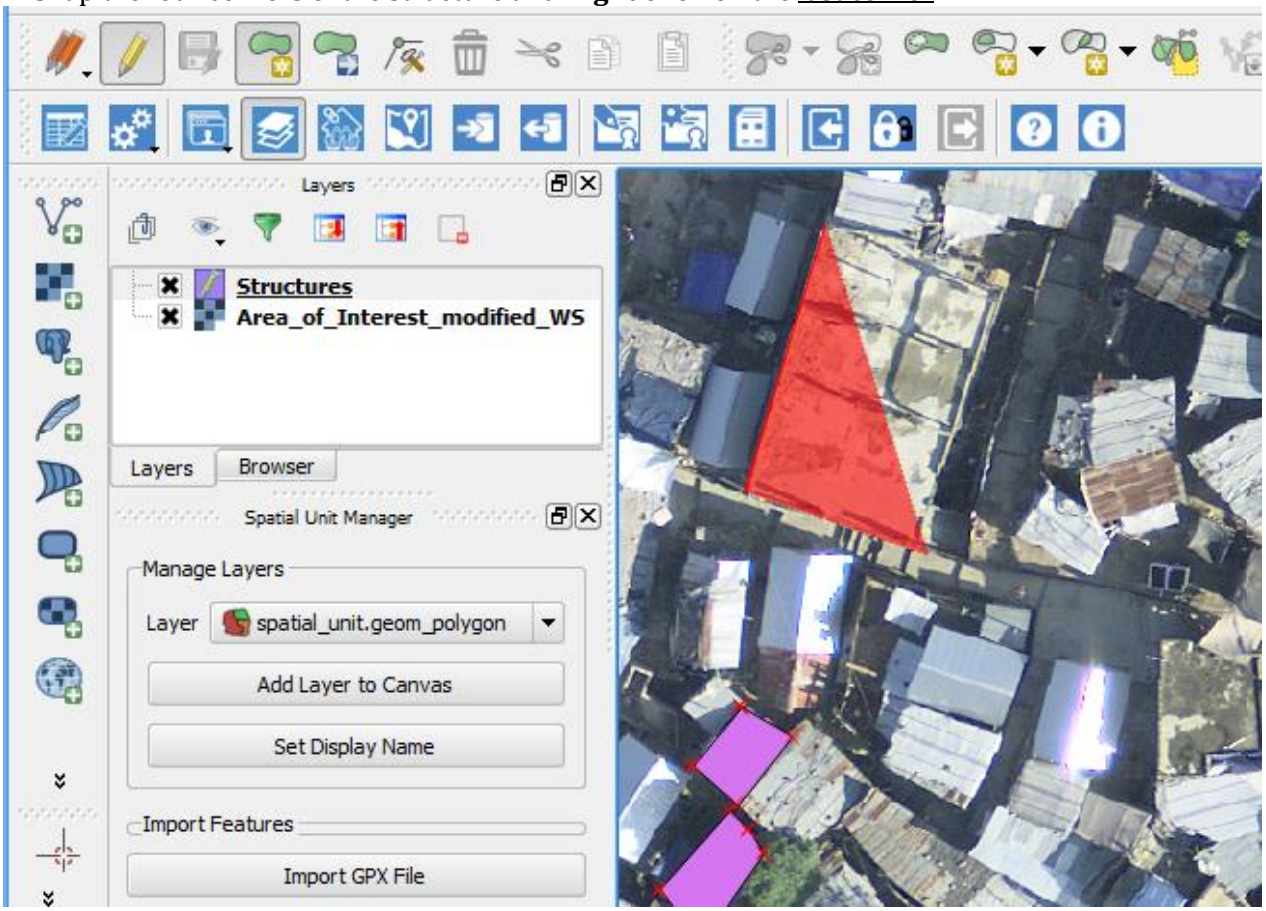
2. Click the "**toggle Editing tool**" on QGIS window.

The layer becomes active for editing.

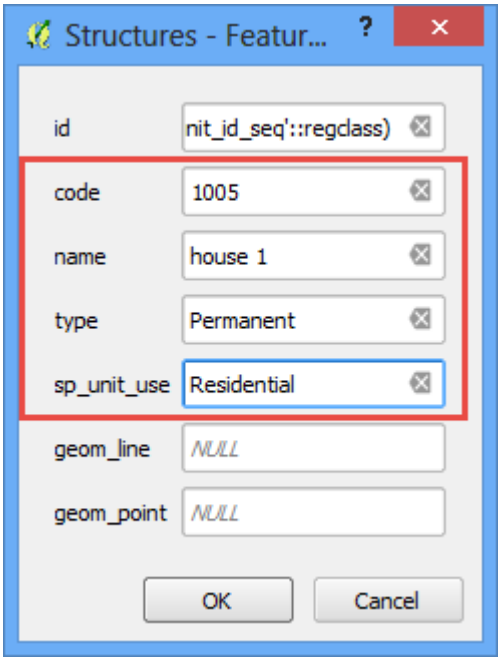
3. Click on the "**Add feature**" tool to start editing.



4. Snap the four corners of the structure and **Right click** on the last corner.

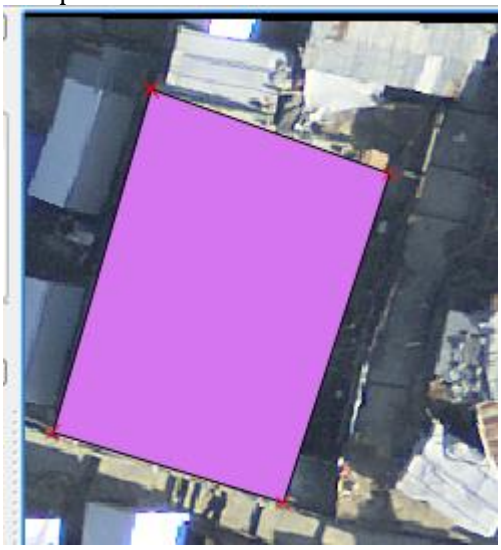


An attribute table appears allowing you to input data relating to the structure.



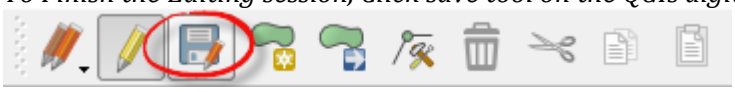
One STDM layer may have multiple geometry types, ignore other geometries when adding the attribute data.

5. Input the attributes on the attribute table and then click "**OK**" button to finish.



The feature is now created on the map.
Do this for all the features you want to digitize or captured into the spatial unit layer.

To Finish the Editing session, Click save tool on the QGIs digitizing toolbar as shown



Then click on the pen tool on the same tool bar to stop editing mode.

6.6.Importing GPS data

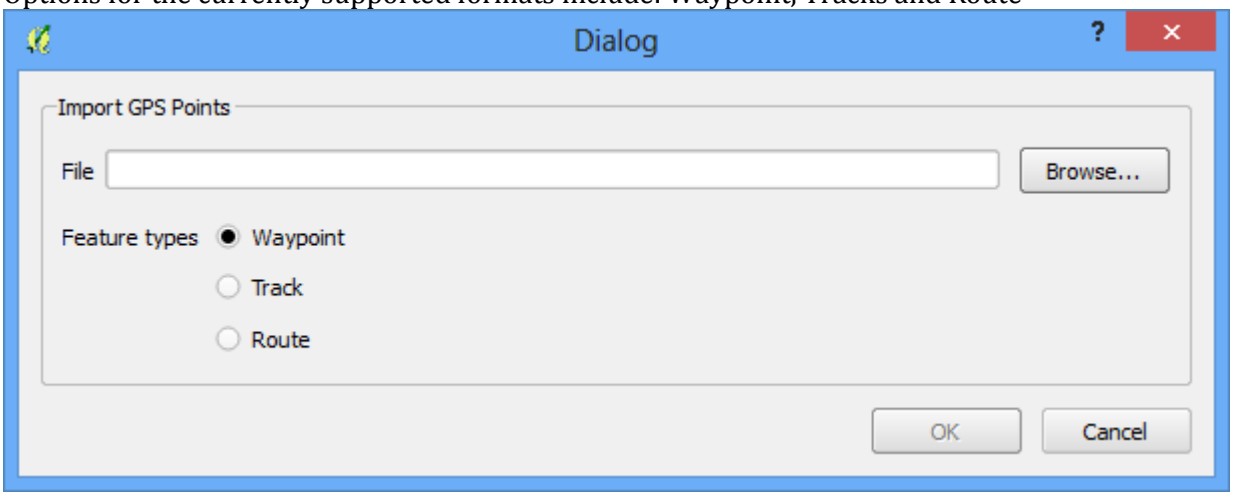
This functionality enables user to:

- Functionality for uploading of GPX files, downloaded from a GPS device. Functionality should enable user to select which coordinate pairs they would like to edit, add attribute information, save and append to an existing STDM spatial layer.

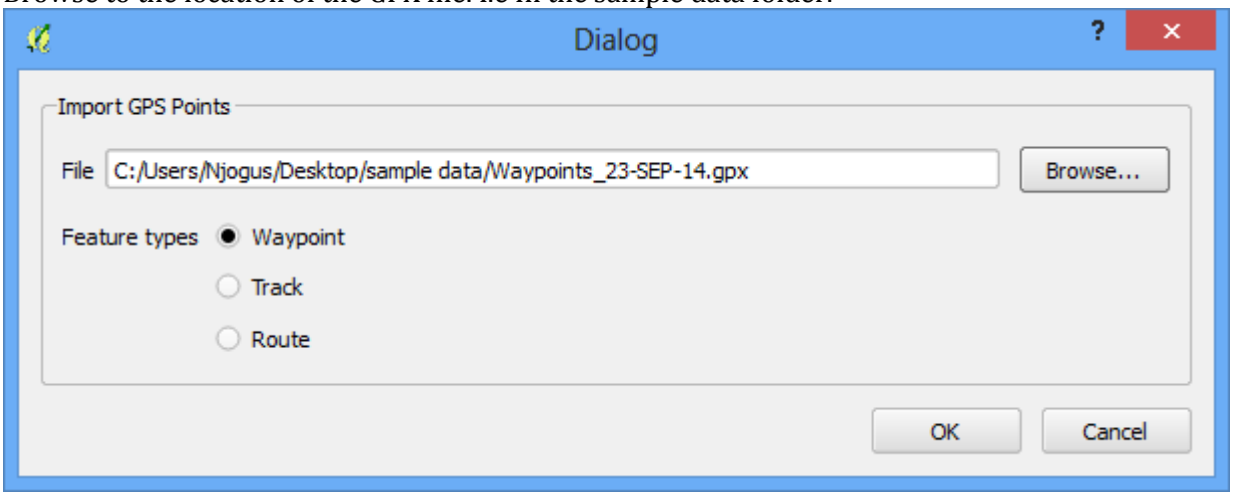
Importing GPX files

When import GPX file button is click on the spatial unit manager.

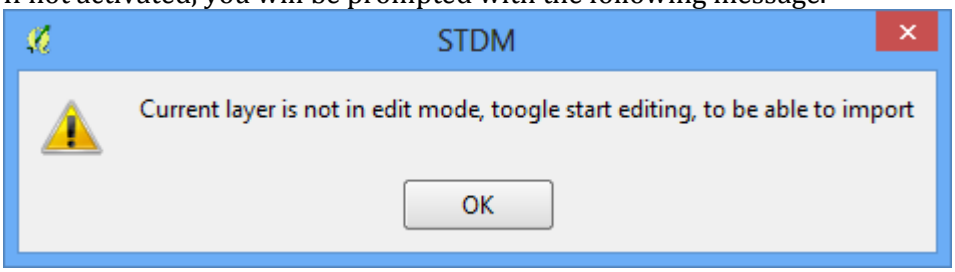
A window is shown, prompting the user to select a GPX file form their computer which will be imported.
Options for the currently supported formats include: Waypoint, Tracks and Route



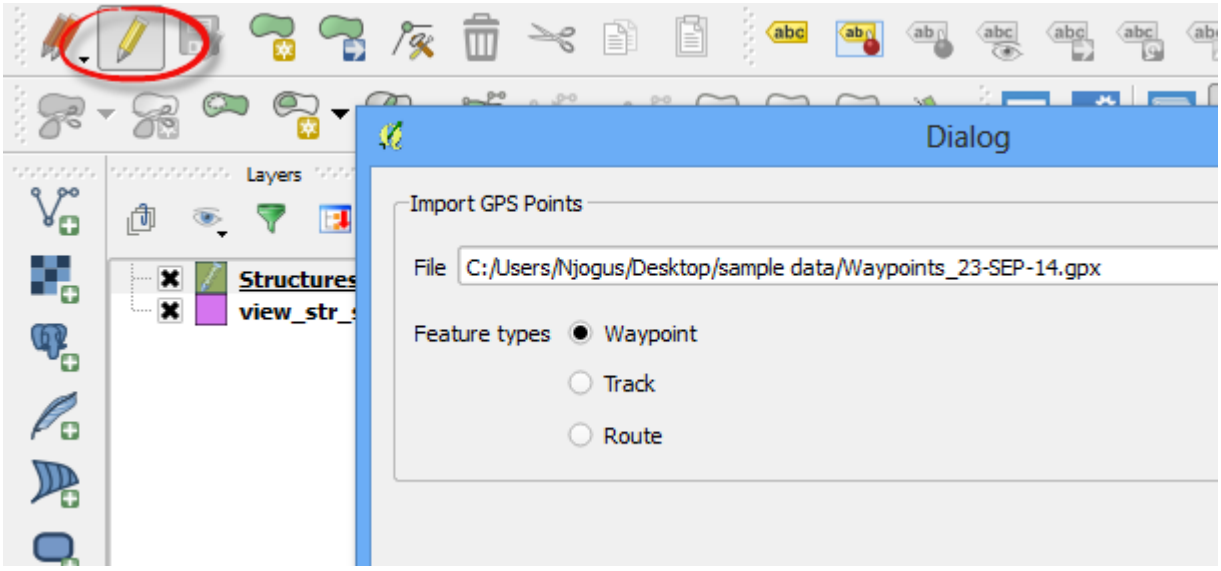
Browse to the location of the GPX file. I.e In the sample data folder.



Before clicking Ok, activate layer editing option to edit mode in QGIS main window.
If not activated, you will be prompted with the following message.



Select your spatial unit layer in the layer panel of the qgis.
Click toggle layer edit mode.

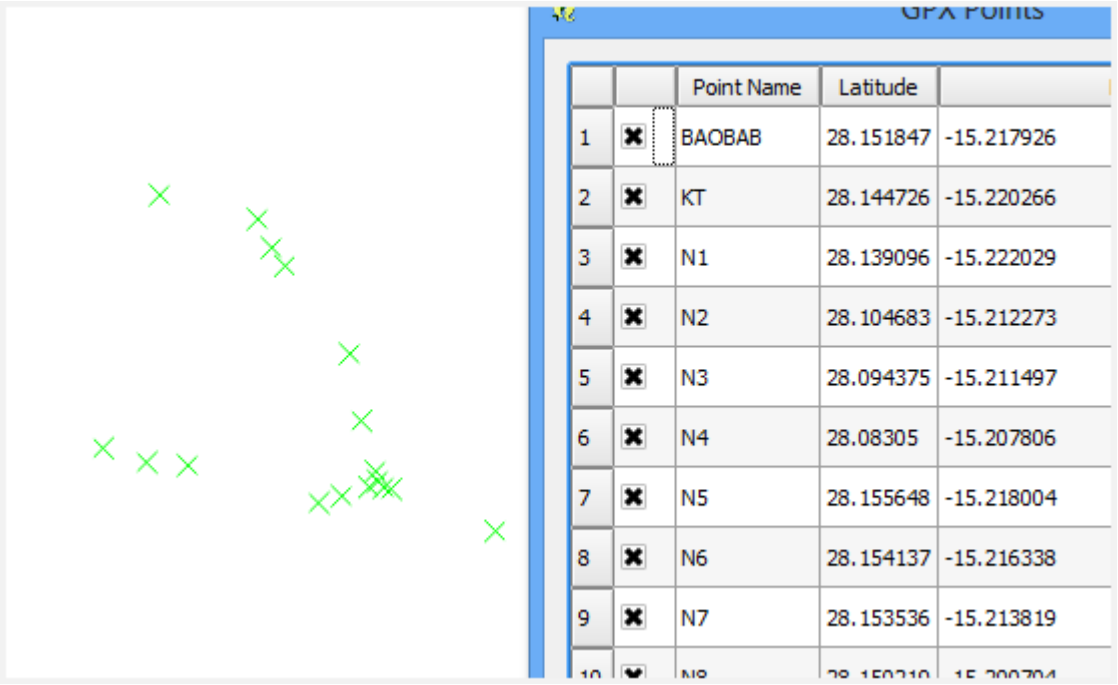


Click Ok on the import dialog.
Once clicked, a GPX table is shown with all existing waypoints from the selected gpx file.

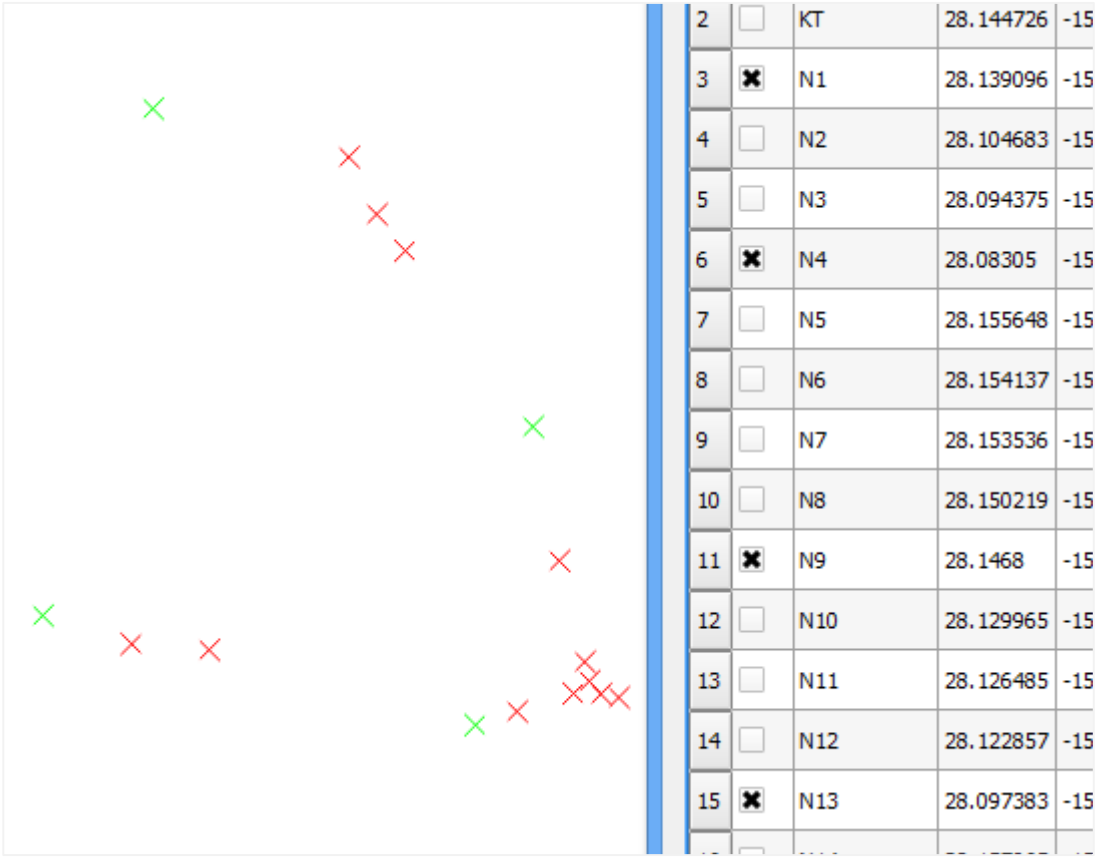
GPX Points

		Point Name	Latitude	Longitude
1	✖	BAOBAB	28.151847	-15.217926
2	✖	KT	28.144726	-15.220266
3	✖	N1	28.139096	-15.222029
4	✖	N2	28.104683	-15.212273
5	✖	N3	28.094375	-15.211497
6	✖	N4	28.08305	-15.207806
7	✖	N5	28.155648	-15.218004
8	✖	N6	28.154137	-15.216338
9	✖	N7	28.153536	-15.213819
10	✖	N8	28.150219	-15.200704

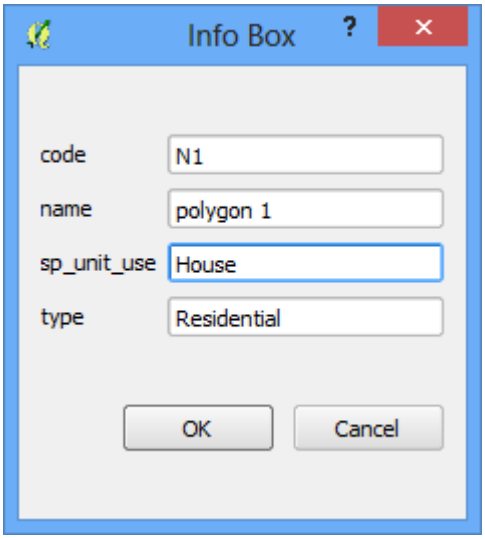
This table can be moved on the side so that you are able to see, the GPX files loaded temporary to QGIS canvas, before they are imported and saved to the database.



The table enables you to change which point you would like to import. This is achieved by clicking on the checkbox shown on the first column of the table to ensure it's checked.
Let's take for instance you want to import a polygon feature captured in the gps to my polygon geometry layer in stdm.
Note: when a row checkbox is selected or deselected, respectively vertex marker on QGIS canvas is show using color green or red respectively. This is displayed below.



You will select the four joining vertex that indicates the edges of your polygon feature as shown above. The selected waypoints (vertex) will be highlighted on the map.
Once confirmed that those are the points of interest to complete the polygon, Click Save to draw the polygon feature.
Attribute editor dialog will load to add the feature properties.



The polygon will be drawn for you on the map canvas.
The feature is also saved to STDM database.
Click on toggle editing icon to stop editing mode when done.

If the feature is a line,
A line will be drawn when the user selects the corresponding vertexes comprising the line feature.

Similarly for a point feature, only one vertex is selectable to import the point feature to stdm toolbar.

7. Generating reports

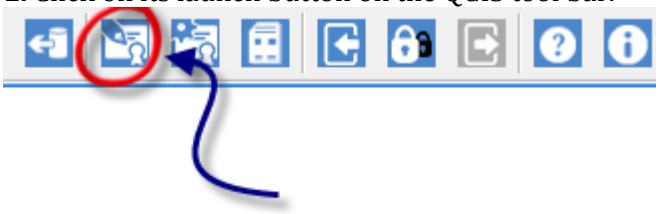
7.1.STDM Document Designer

Document Designer is a QGIS tool that can be used to design and set up output maps

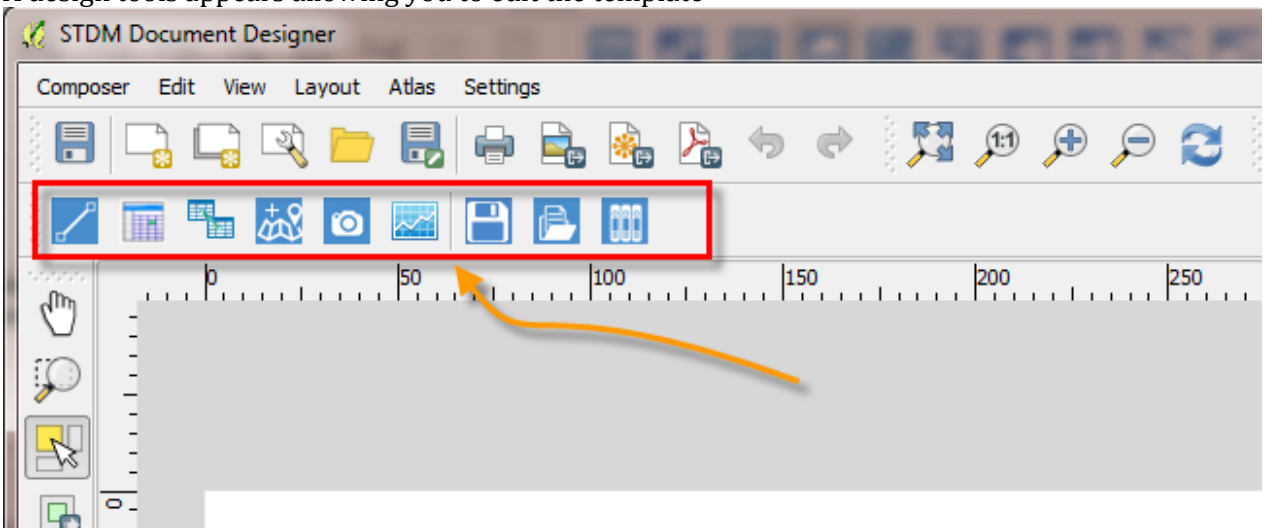
Designing documents using STDM.

To Start the STDM Document Designer,

1. Click on its launch button on the QGIS tool bar.



A design tools appears allowing you to edit the template



The designer will start with an empty field where the user can work on to set up all properties and utilities of a map.

The tools allows you to perform several tasks;

- This tools heps in drawing lines during the design of the template

- Label any graph, photo etc by use this button.

- used to add attribute table in the temple.

- Enables you to add map on the document template.

- You can add a photo of the owner of a spatial unit on the template.

- Helps you to add chart.

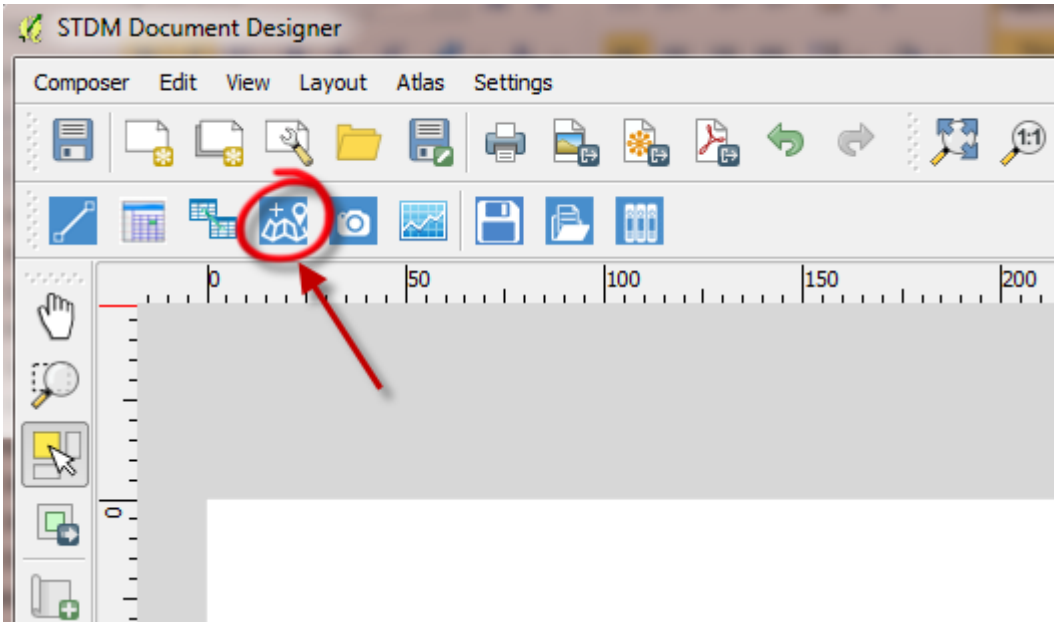
- After working on the template, this button allows you to Save the template

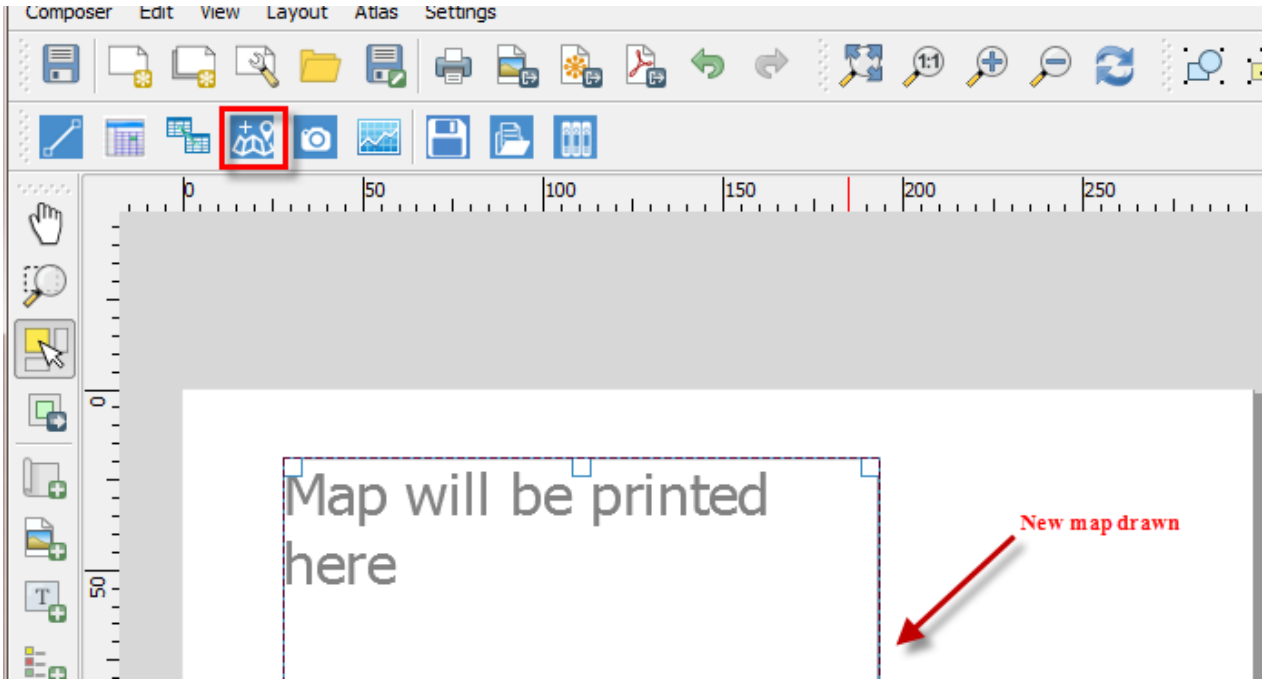
- You can open the template from the storage file by use of this button.

- In managing document template, this button will help you in editing, deleting etc. selected template.

Adding a new map field.

1. First click on the add map button to set up a new map on the designer field.

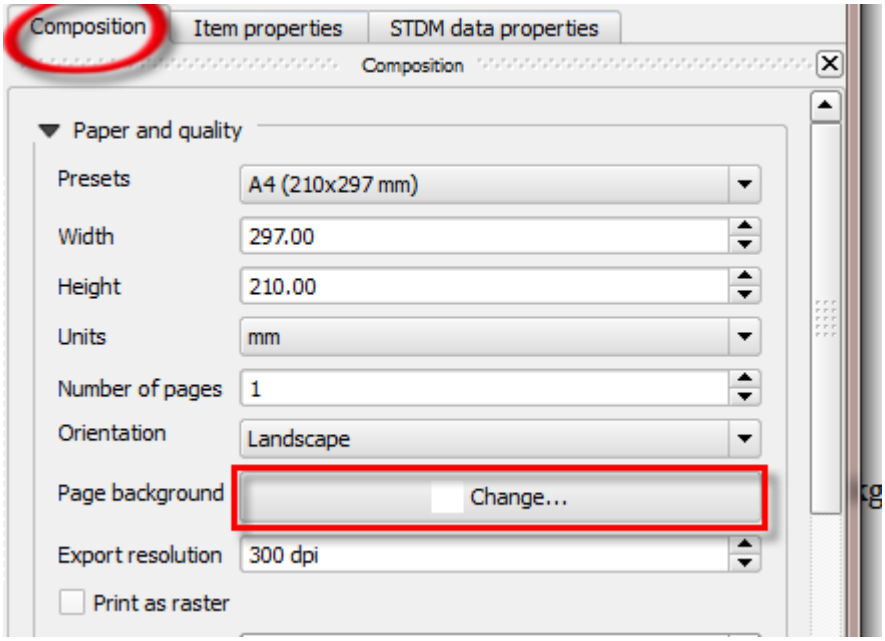


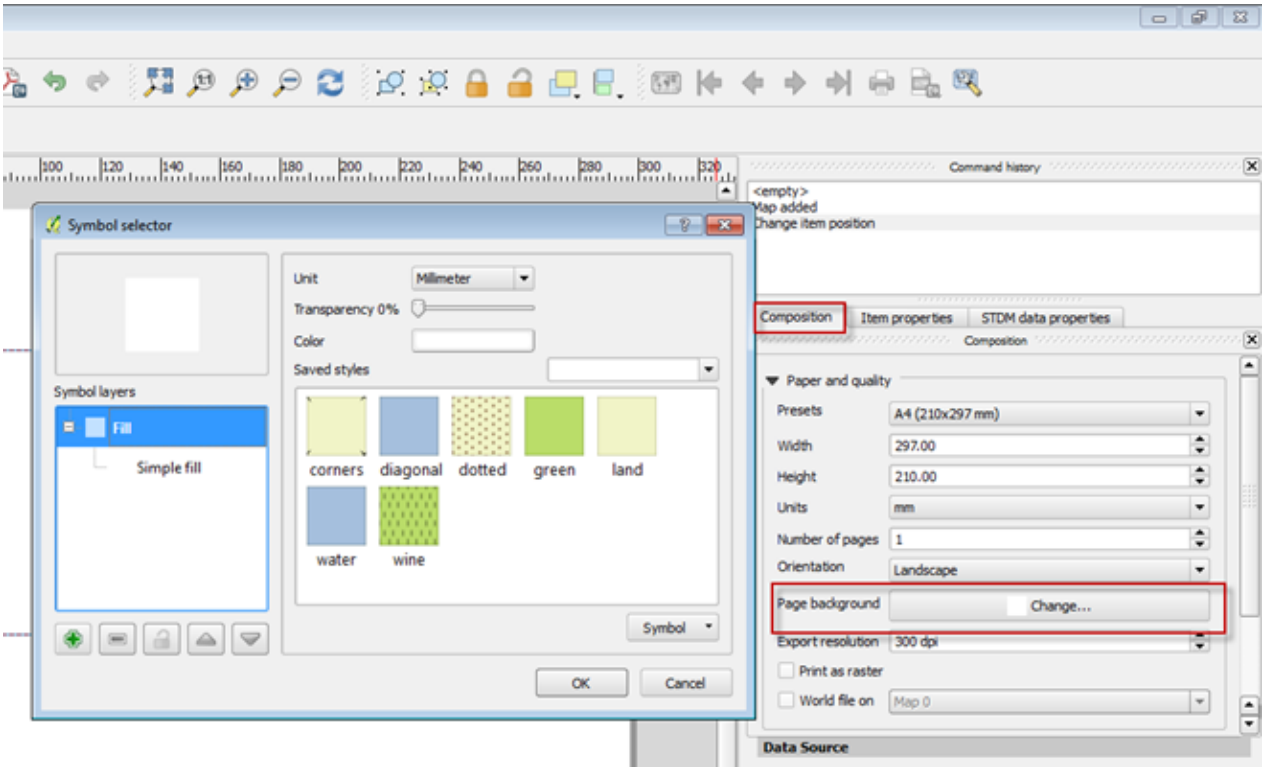


Next you can draw the map area on the designer field and can resize it accordingly

You can opt to change the map back ground on the designer field.

2. To change the map background, click on the **composition** tool bar on the right side of the designer then select the page background option.





3. Click on the **change button** then select a suitable background from the options available
4. Click **OK** to apply the page background.

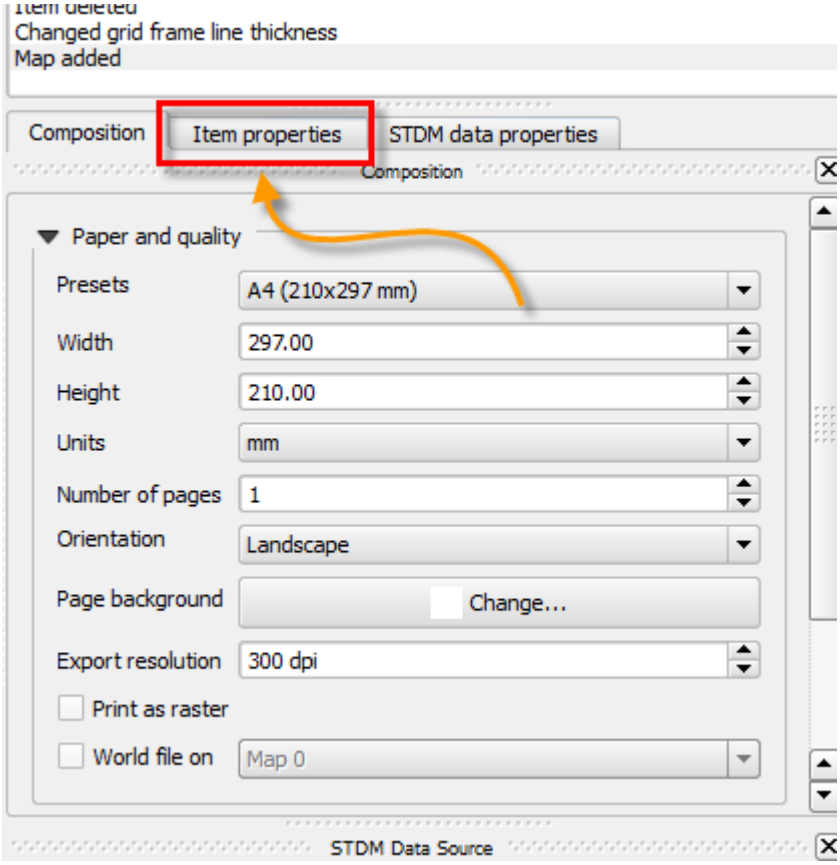
Adding a map title.
Add a template title on the map created.

1. To do this, click on the new label button .

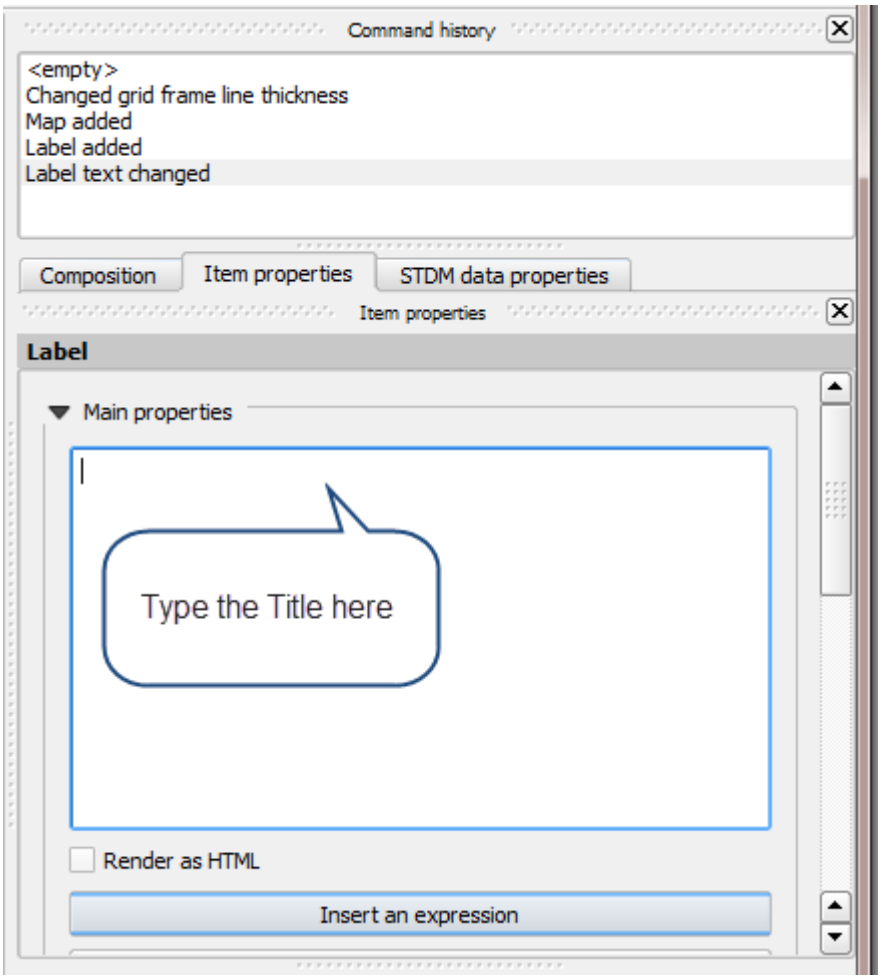
This will set up a new QGIS data field where the user can label the template.

2. To type down the title, click on the **item properties** button on the designer task pane.

From here user can also change the font properties of the title text. Once all the changes are made.



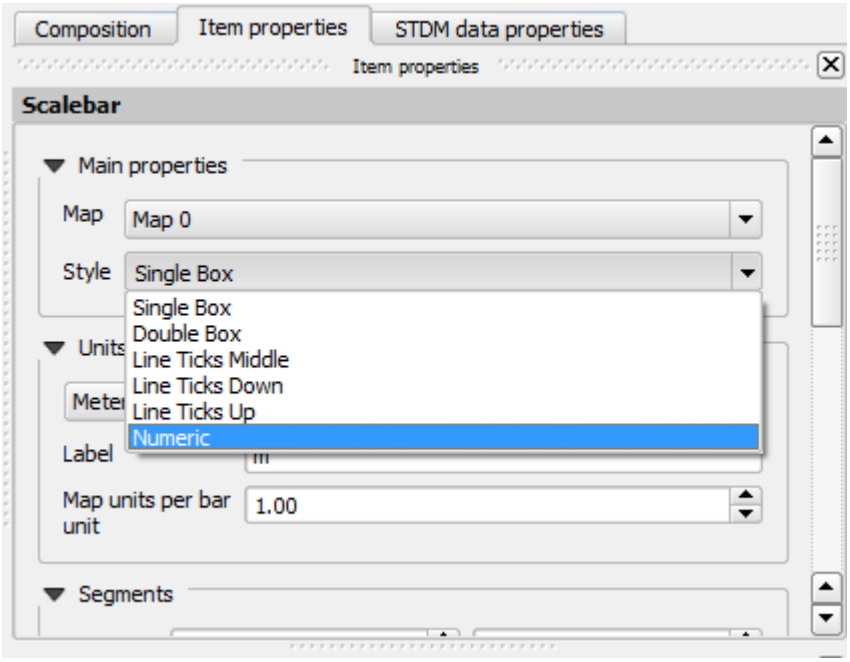
Then on the label option, type the name and edit as you wish it to appear



3. Click on **OK** for the changes to apply on the template

Setting a map scale.
Put a suitable scale on the map for distance measurement.

1. To place a new scale bar, click on the button .
2. Then place the scale bar suitably below the maps space placement.
3. Set the properties of the scale bar and the scale bar style.



Any changes made on this item properties task pane will affect the scale bar placed on the template. The scale used should give a true reflection of the actual distances and content size on the ground for which the map represents.

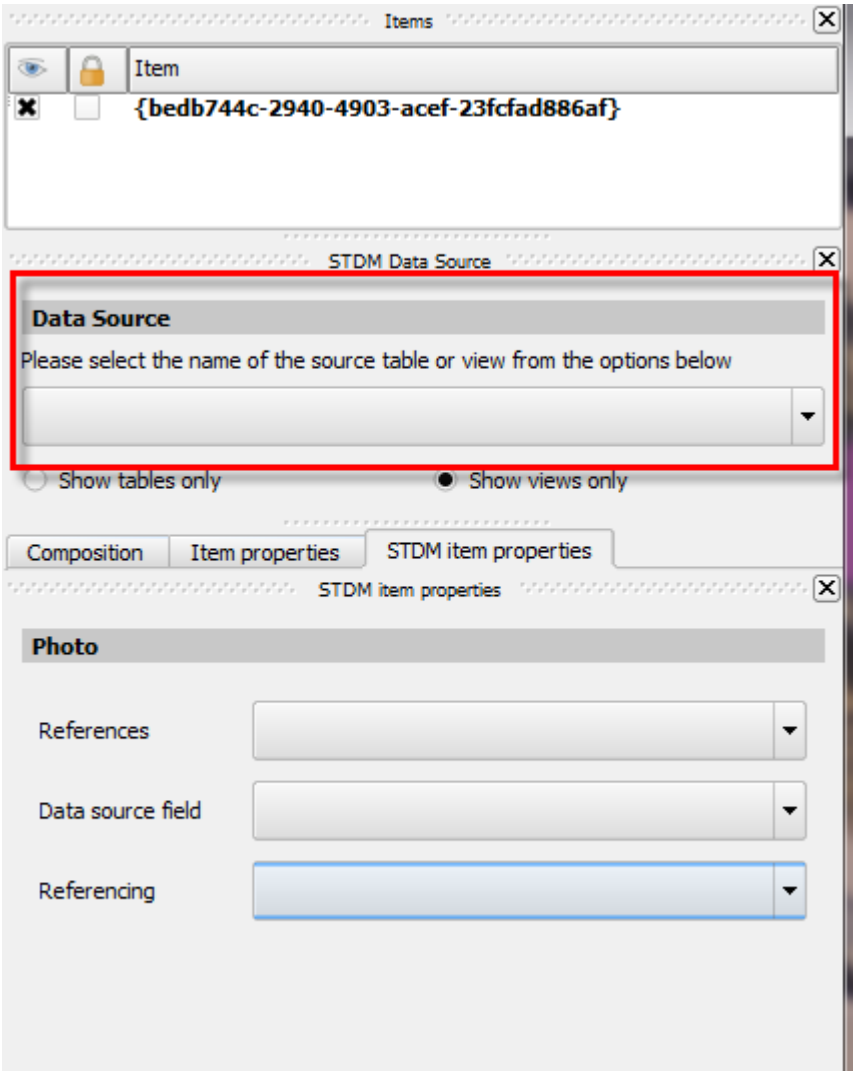
Adding a legend.
Next, place a map legend on the template. To add the space placement for the legend

1. Click on the **add new** legend button on the template tool bar.

The legend can be preferably placed on the bottom left corner of the template but the template arrangement is as the user wishes. The system mainly picks the template legend from the STDM database.

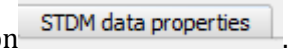
Adding Photo.
User can also place an image on the template. To do this;
1. Add a space placement on the template where the image will appear.

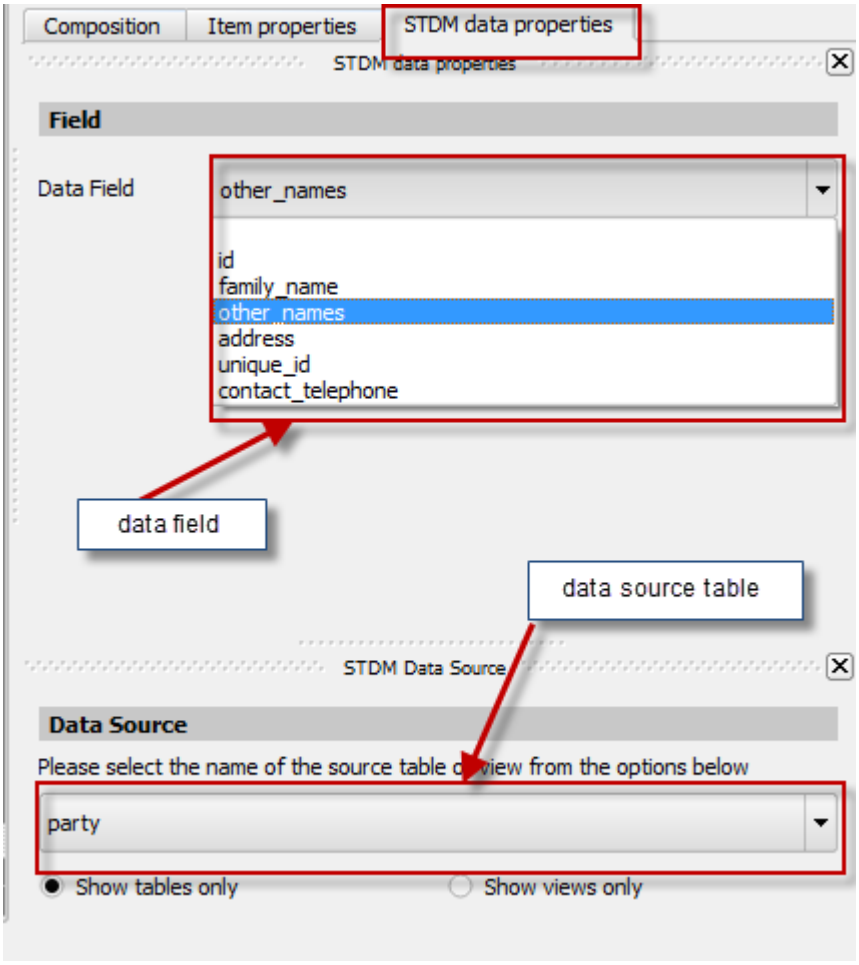
2. Click on the add image button then put the placement on an ideal place on the template.
3. From the STDM item properties task pane, select a path from which the system will select the image to put on the image placement.



4. Once image is identified, click '**open**' for the photo to appear on the template being worked on.

5. Name the any image placed on the template by clicking on the data **label button** .
6. Next put the space placement for the data label below the image created. User can place multiple STDM data labels if the image has more than one name. For example a first name and a last name.

6. Click on the **STDM data properties** button  . This will source the name from a data source list below the task pane.



Using STDM database tables;
To use tables as source of the data for the fields, defined views or tables can be loaded as follows:
1. Select the data source from the available options by clicking on it.
2. Then select a data field above the task pane, the information selected on the data field is what will appear on the data label for the image.

Adding a north arrow.
User should place a north arrow with the maps true north.

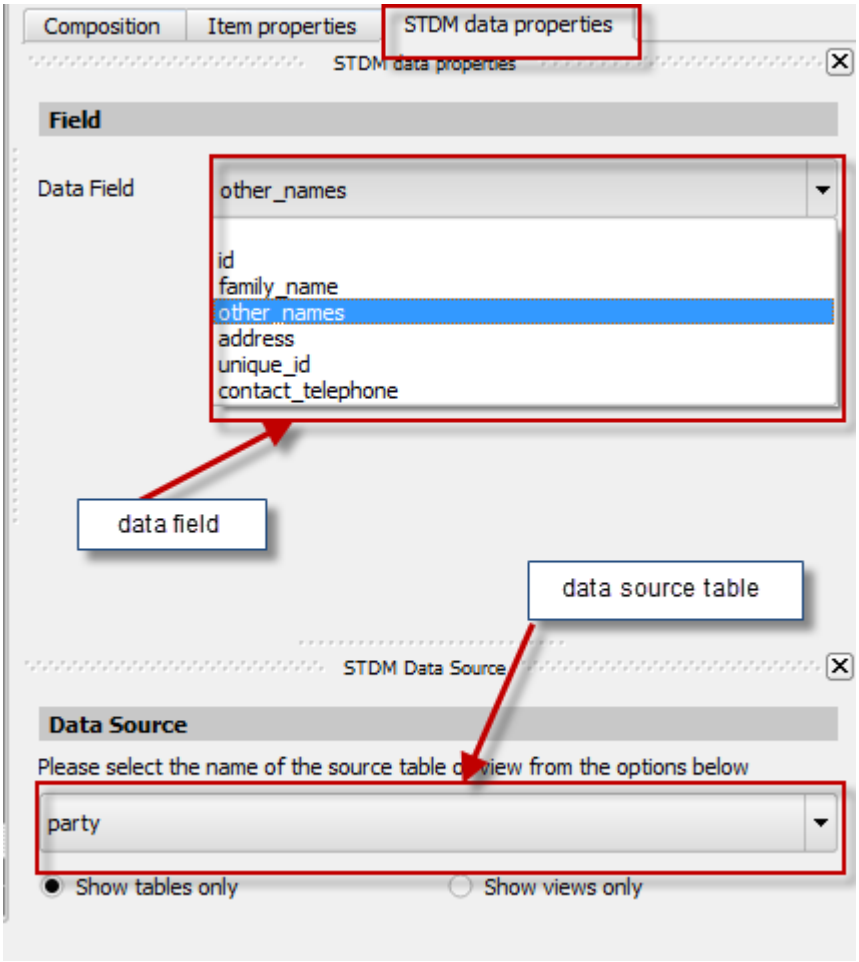
1. Pick an arrow from the menu bar with the button and draw it facing upward for north.
The arrow can preferably be placed on the bottom right side of the map.
On placing the north arrow the template should appear more or less close to the image below

Adding a signature field.
Here, set up a signature placement below the template.

1. Click on the **line button** to and draw a signature line below the template.

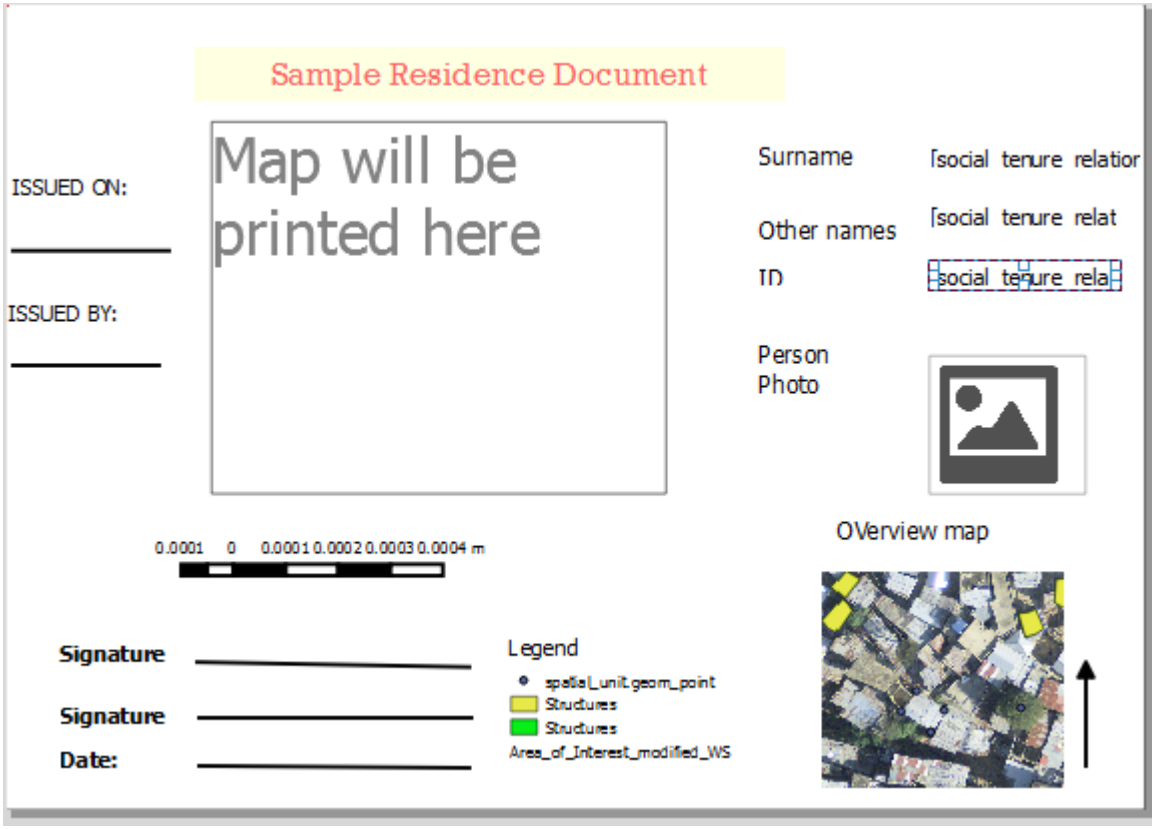
This can be accompanied by an STDM data field for the sign label. The signature line and data fields can be resized and edited on the item properties task pane.

3. To select the name to place on the data field, click on the **STDM data properties** button and select which data source to use in the field.
4. Select the data field from the list available from the data source the user selected. The data properties button is shown in the red box below.



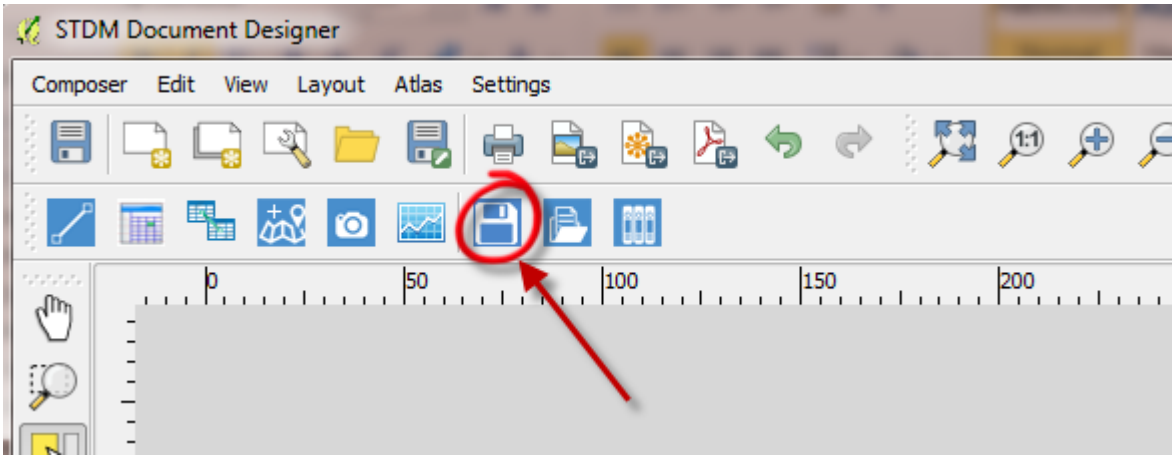
5. Next place STDM data fields below the line for the name of the user signing the the template.
The template should now appear as shown below with all the content applied in the steps above.

Template arrangement may differ depending with the template's content and the users. It should however be clear with all the information pertaining to the intended use of the template. An alternative arrangement may be as shown below.



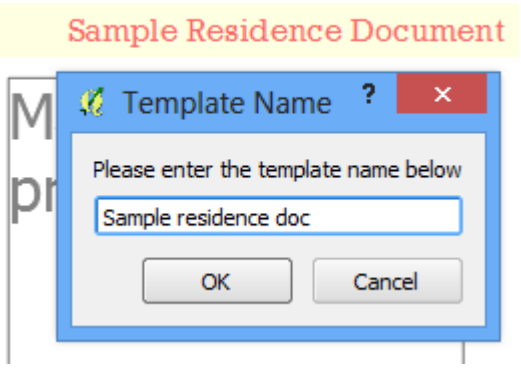
After all the content is placed on the template, user should now save the template.

6. Click on the **save** button shown in a red box below to save the work.



This will prompt a name dialog where user should input the name for which to save the template with.

7. Type down the name



8. Click **OK** to save the work.

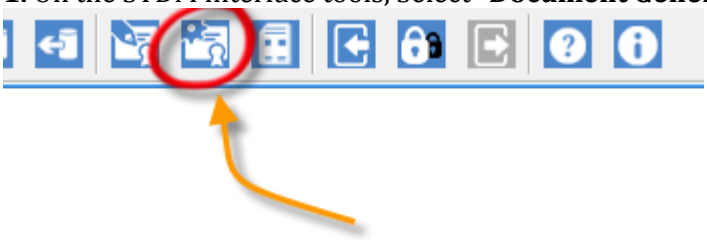
9. To access a saved template on a later time click on the button on the menu bar.

A template selector dialog will appear with all the saved templates.

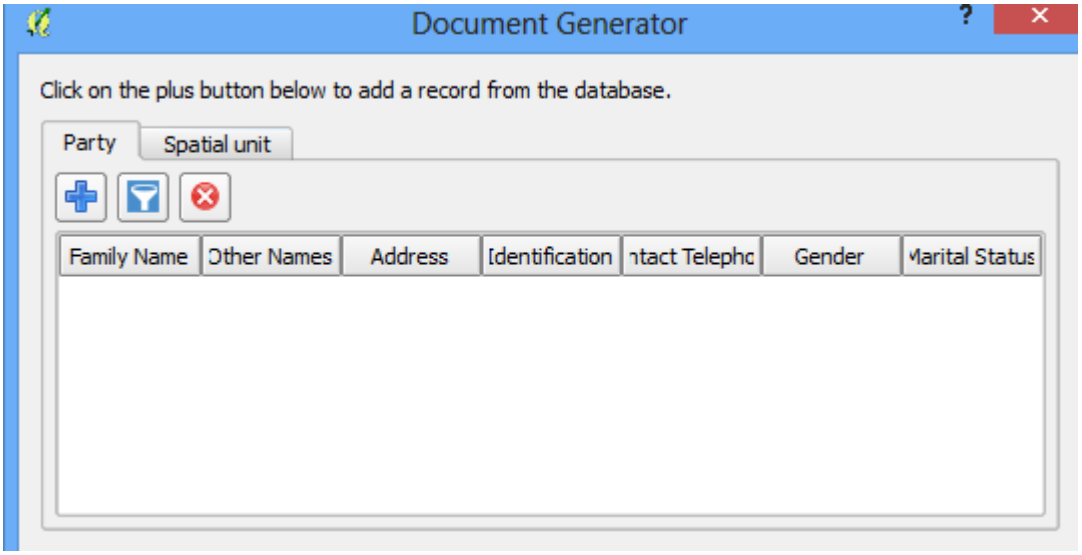
7.2.Generating map document

Generating a report is an important component in the STDM of disseminating information about land. This information will be used in various ways like making informed decisions, good management of resources, security of tenure etc.
The generation of document will be based on the selected social tenure tables.

To generate a report based on the designed template;
1. On the STDM interface tools, Select "**Document Generator**" button



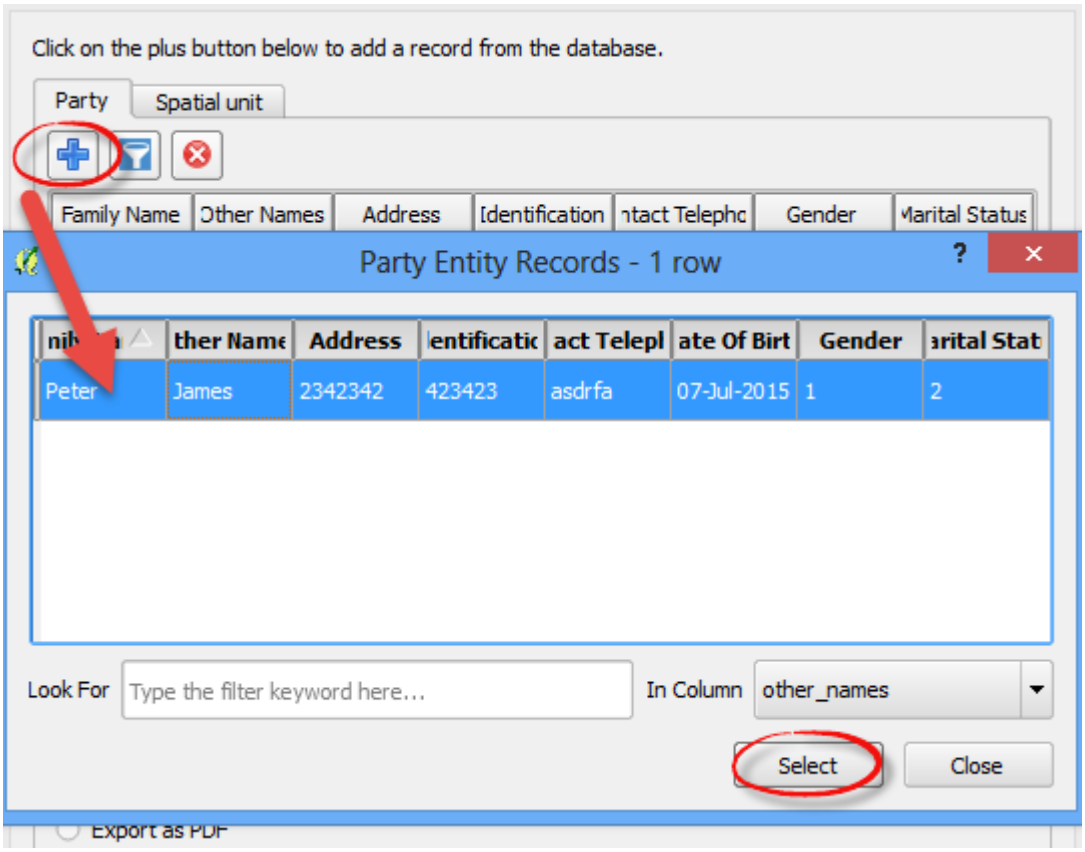
A Document Generator browser appears allowing the user to perform several tasks.



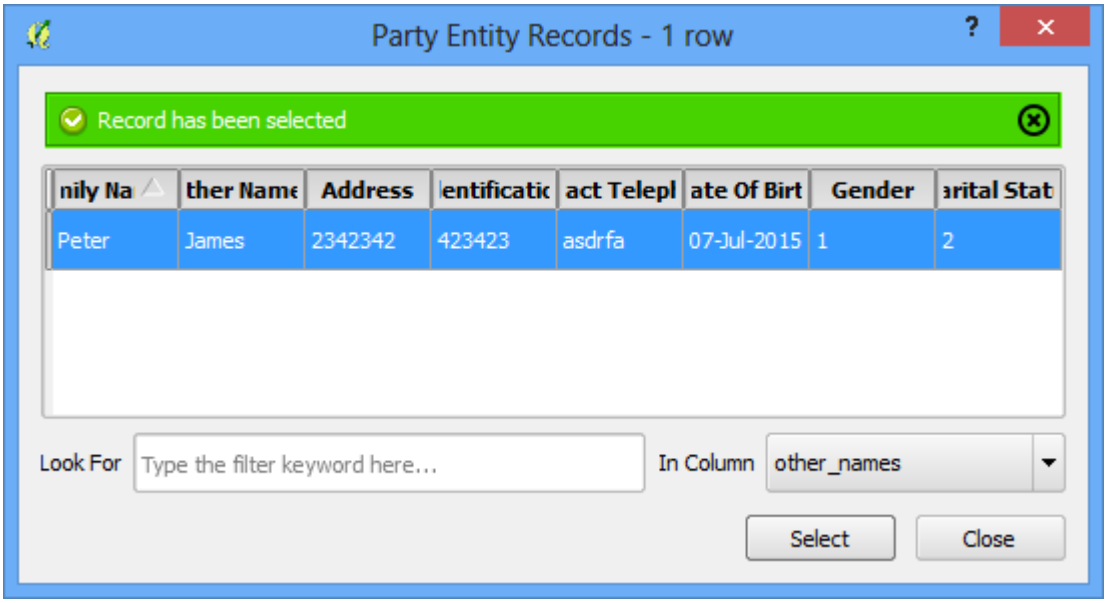
2. On the wizard, select button to Add a person whose details you wish to appear in the document

This allows you to browser to the party records

3. Select the person whose details you wish to appear in the document.
4. Click **Select button** to proceed

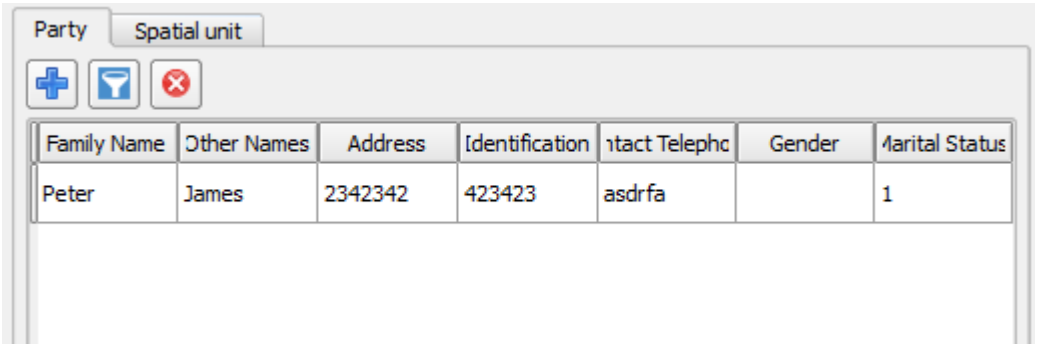


A notification will appears showing you that the record has been selected



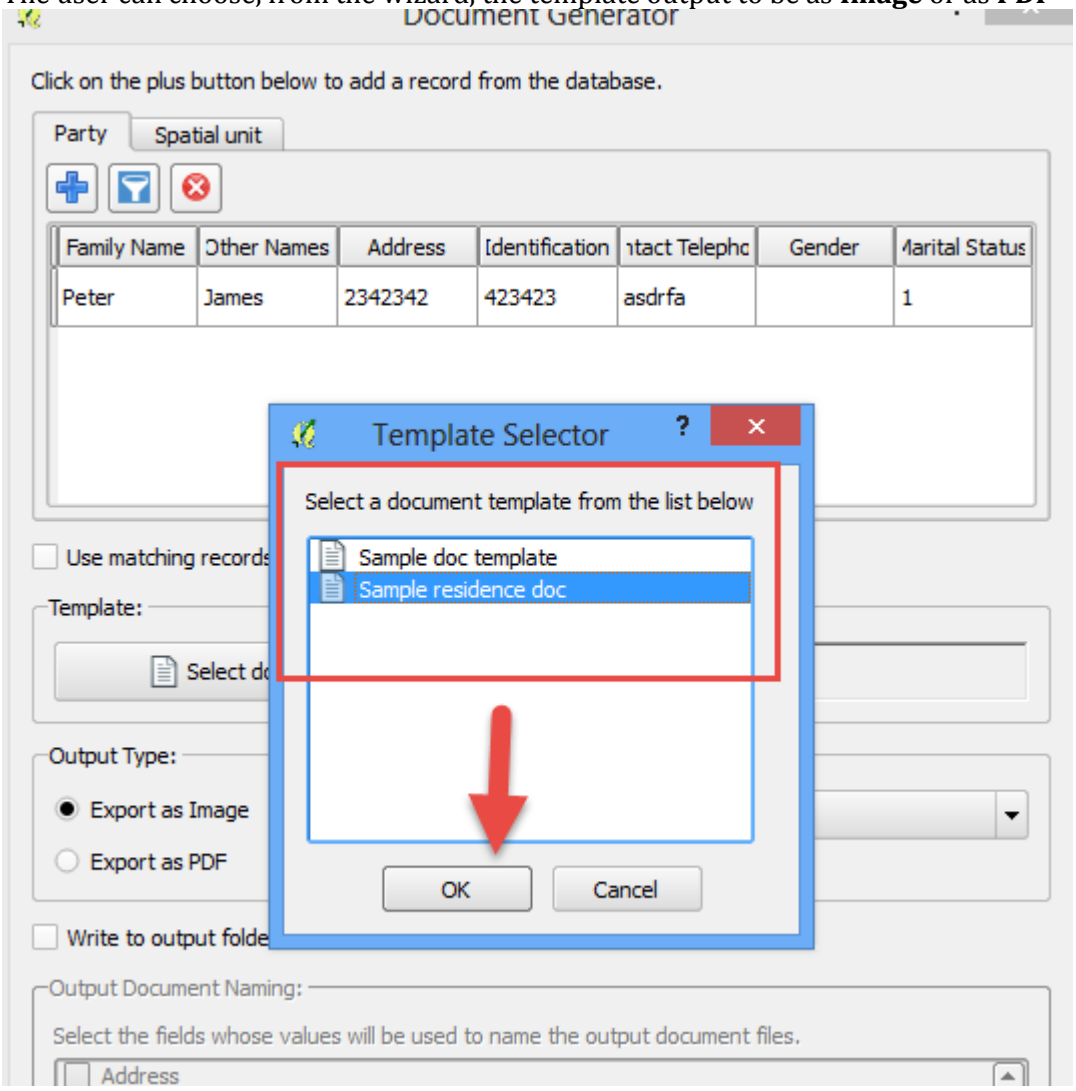
5. Click **Close button** to exit the pop up.

A dialog box appears showing the selected record in the list
Note: You can select more than one record for report generation

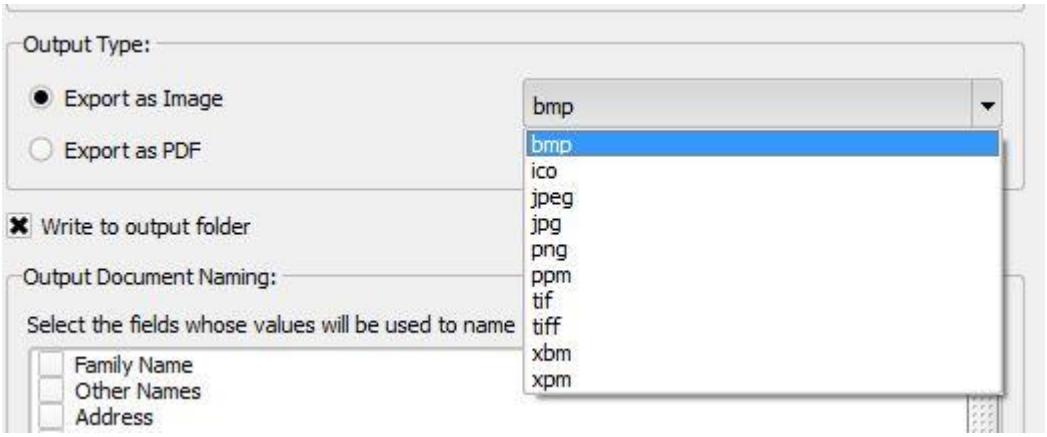


6. Select the Document template designed

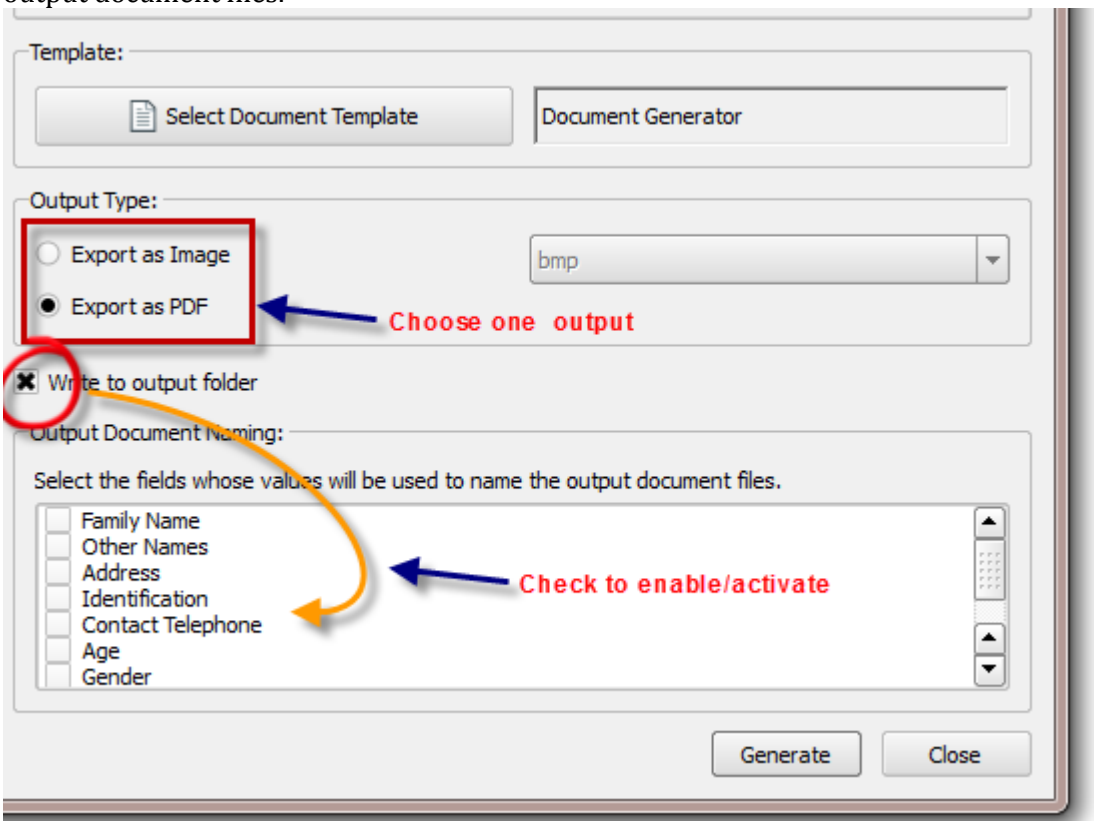
A template selector appears showing the designed template.
The user can choose, from the wizard, the template output to be as **Image** or as **PDF**



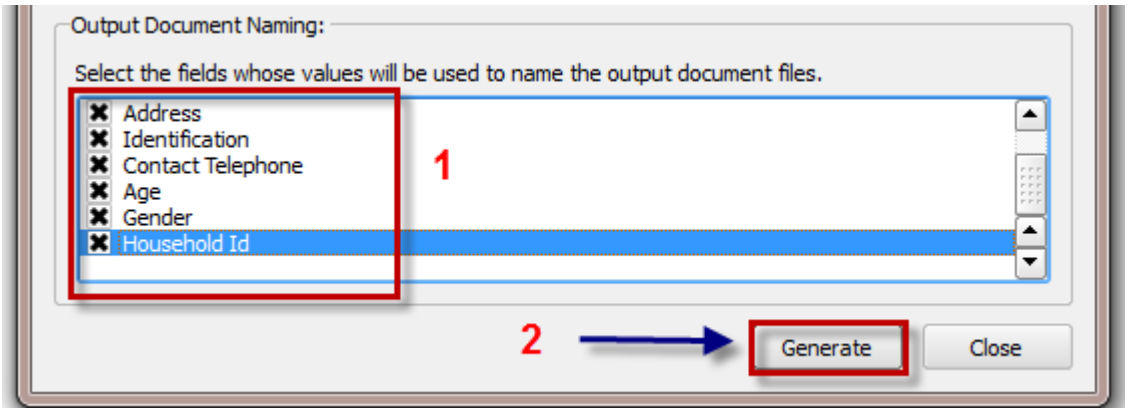
7. Click **Ok**
On the wizard, Choose the kind of output you want; either **PDF** or **Image**
If it is an image, a drop down list will show will provide options



8. Check/ Activate the "**Write to output folder**" to select the values that will be used to name the output document files.

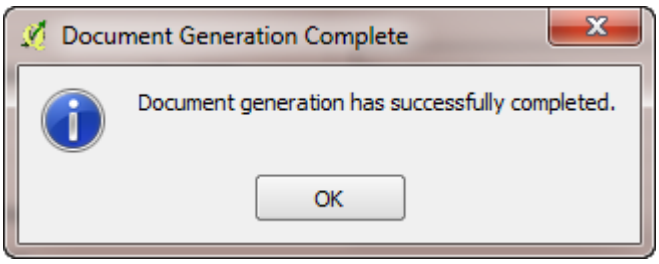


9. Check the fields to appear on the output document
10. Click "**Generate**"



A pop up appears notifying you that the Document Generation has successfully been completed.

11. Click **OK** to complete



The document has been successfully generated. The user can browse to the output path to see the document.

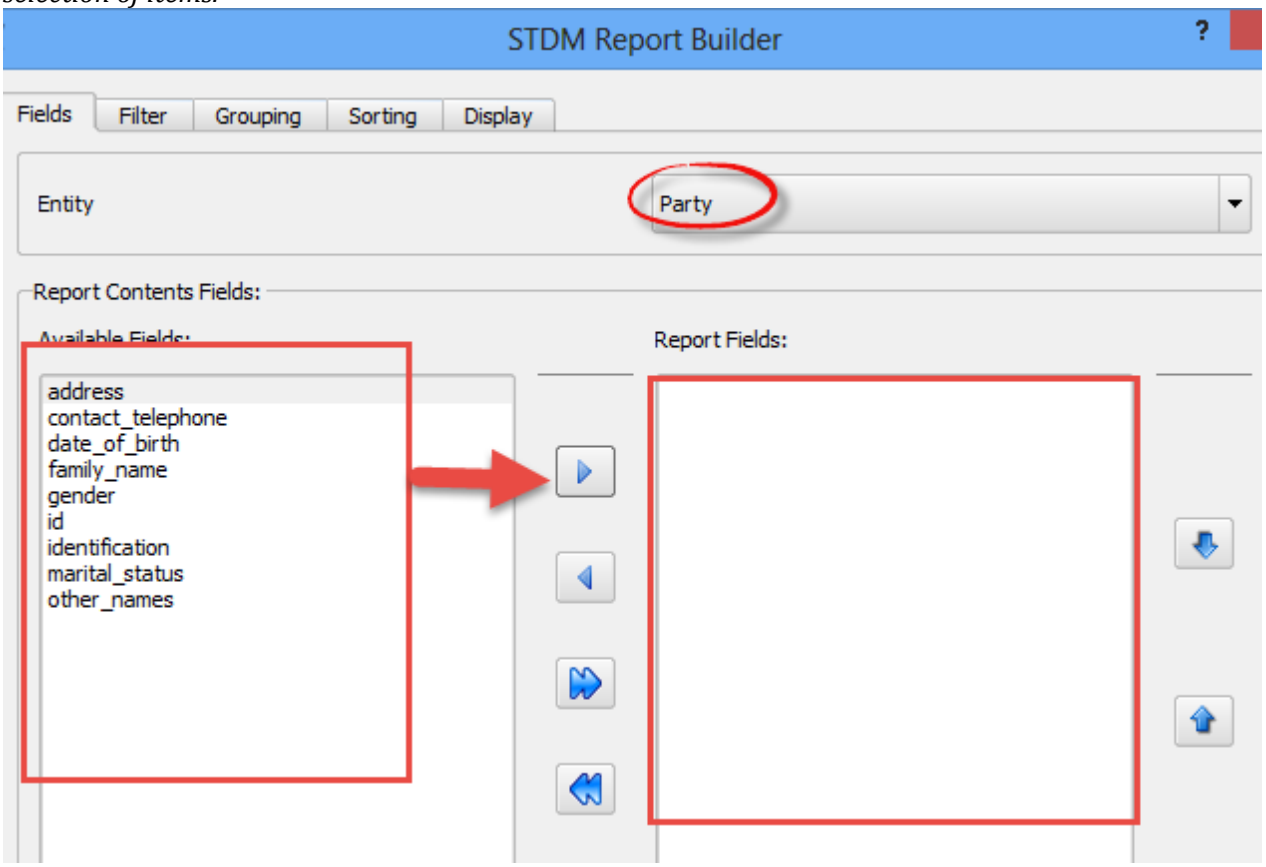
A similar process is followed to create a spatial unit document using the spatial unit tab.

7.3.Generating Documents and Reports

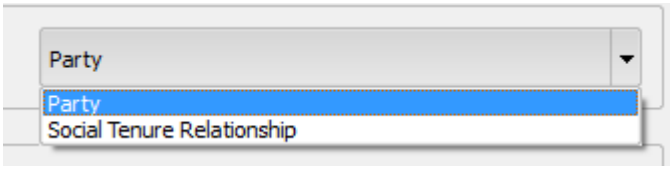
STDM provides a platform for report generation which can be used for decision making.

1. Click on the **Report builder** button on the STDM tool bar.

A report builder wizard appears allowing the you to customize the report based on the data and your selection of items.

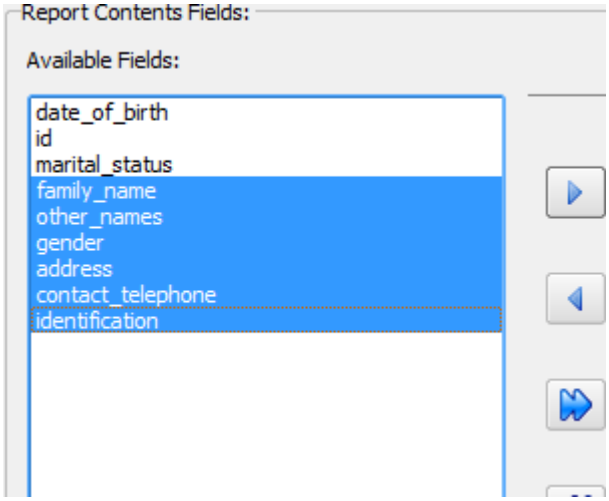


2. From the wizard, select the Entity you wish to work on. For example, is it a report on Household, Party, Spatial Unit or Social Tenure Relationship.
Choose the entity you wish to generate report form.

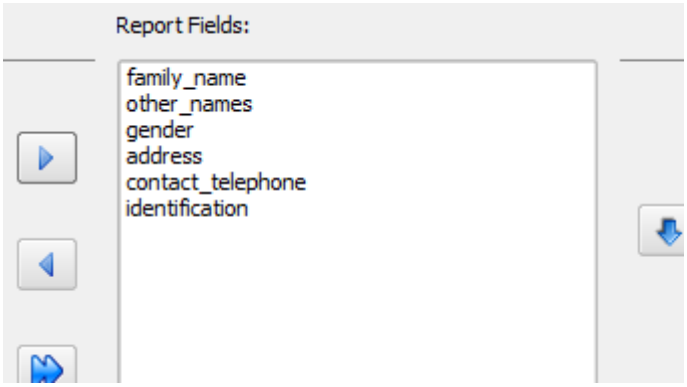


Available attributes from the selected table/module displays

3. Select the attributes that you would wish to be displayed on the report and in the order you want them to appear.

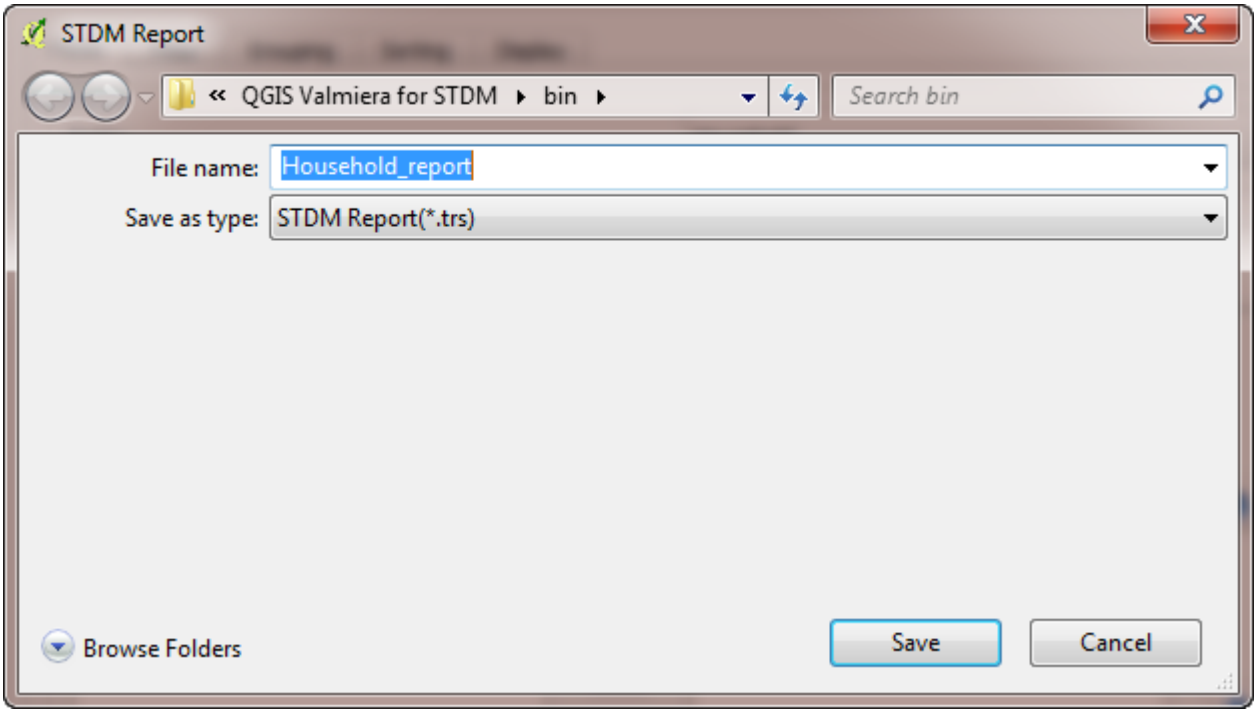


4. Using forward button, click to push the selected columns to report fields' panel.



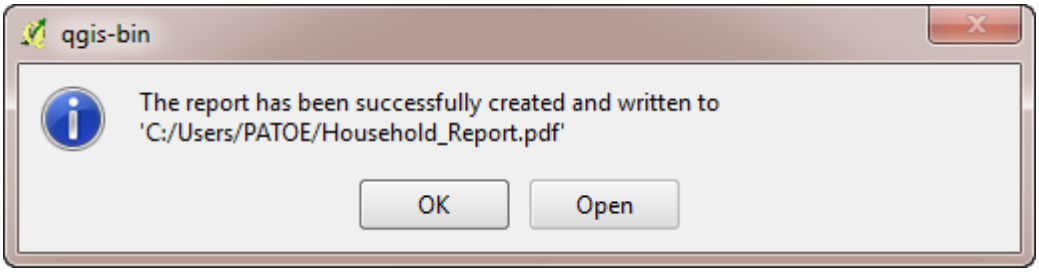
The selected attribute moves to the report fields'. Do this for every other attribute you wish it to appear in the report.
At this point, if there is no customization is required to the final report.

7. Click **SAVE** to browse to where you would like to store your report files (Destination).



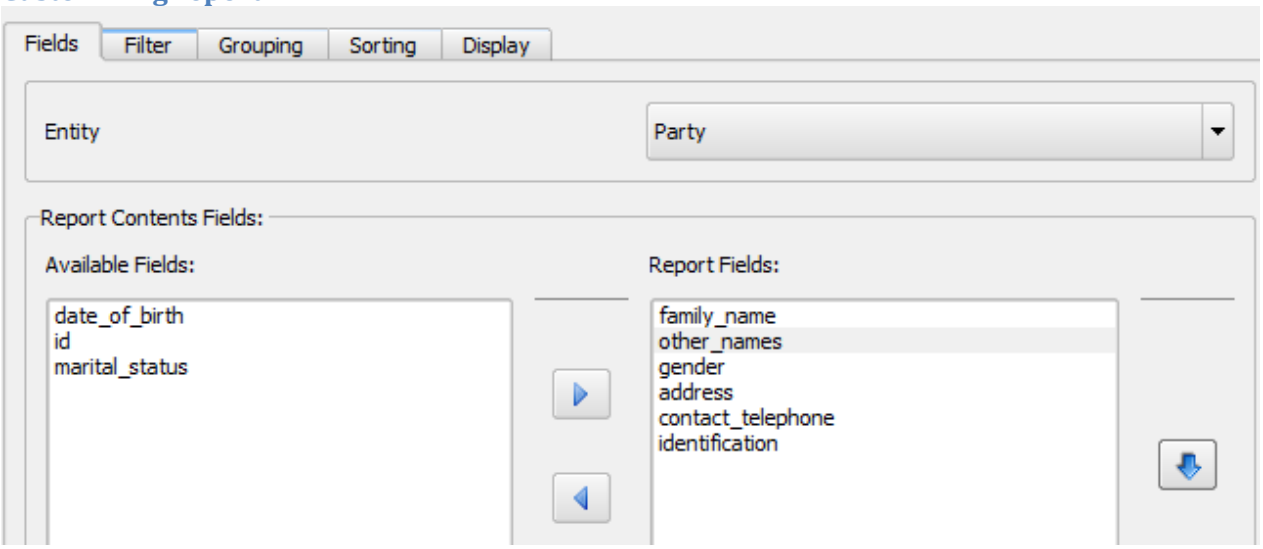
8. Click **Generate report.**

A notification pops up showing the user that the report has been created successfully in the specified folder.



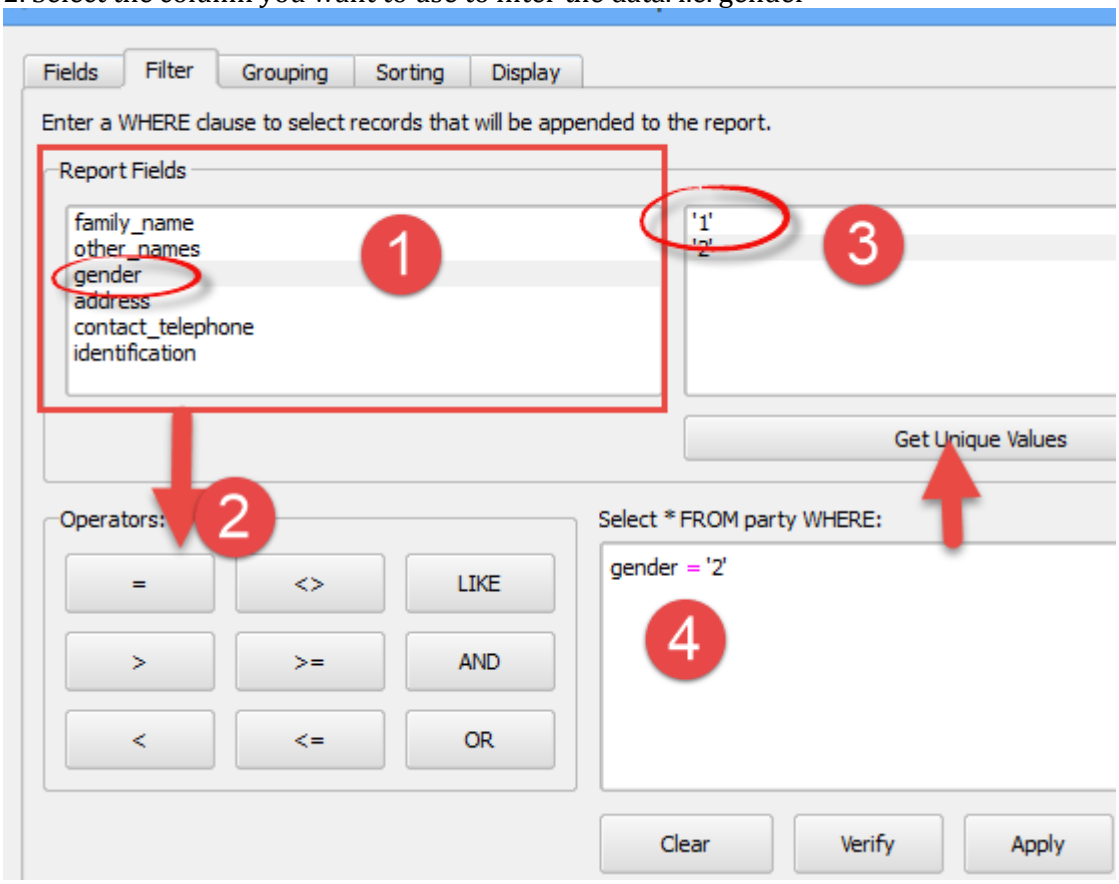
9. Click **OK** to finish

Customizing report.



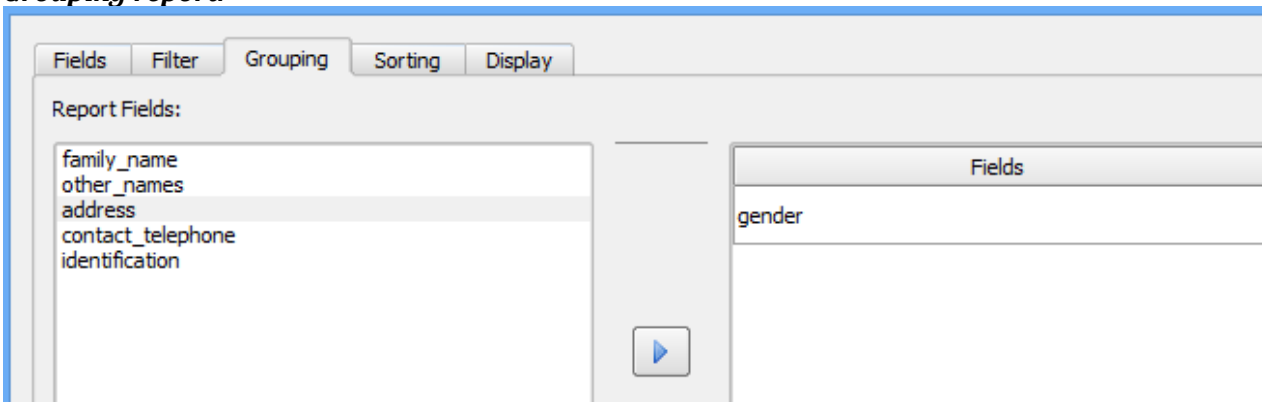
Having selected your report fields.
1. Select Filter tab. Filtering allows you to query a data set matching a certain criteria which you should know prior to field selection. The filter column must also be selected. E.g. **select persons whose gender is female**

2. Select the column you want to use to filter the data. i.e. gender



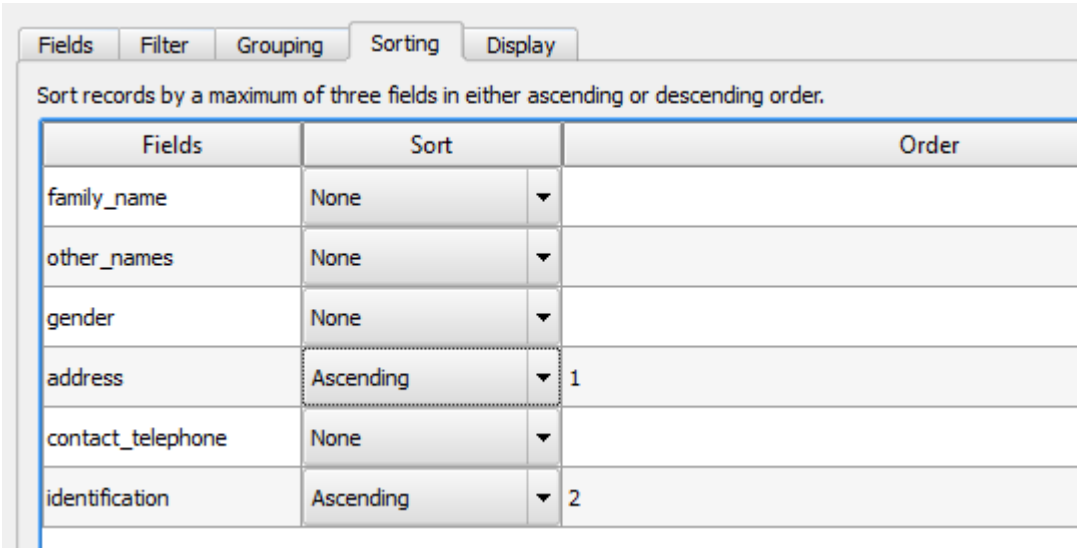
2. Select the operator to use in the filter expression.
3. Get the data from the database to assist you in matching the criteria. In this case the data is coded 1 for male and 2 for female.
4. The filter expression is therefore generated for you. **"gender = 2" or gender = Female**.
5. Click verify button to see the matched result from the filter expression. If some records are returned. You may proceed.
Multiple filter expression can be given as well i.e. **gender = Female AND age <=20 AND marital status = Married.**
For such a filter, the data must be existing and the columns should be selected for report fields.

Grouping report.



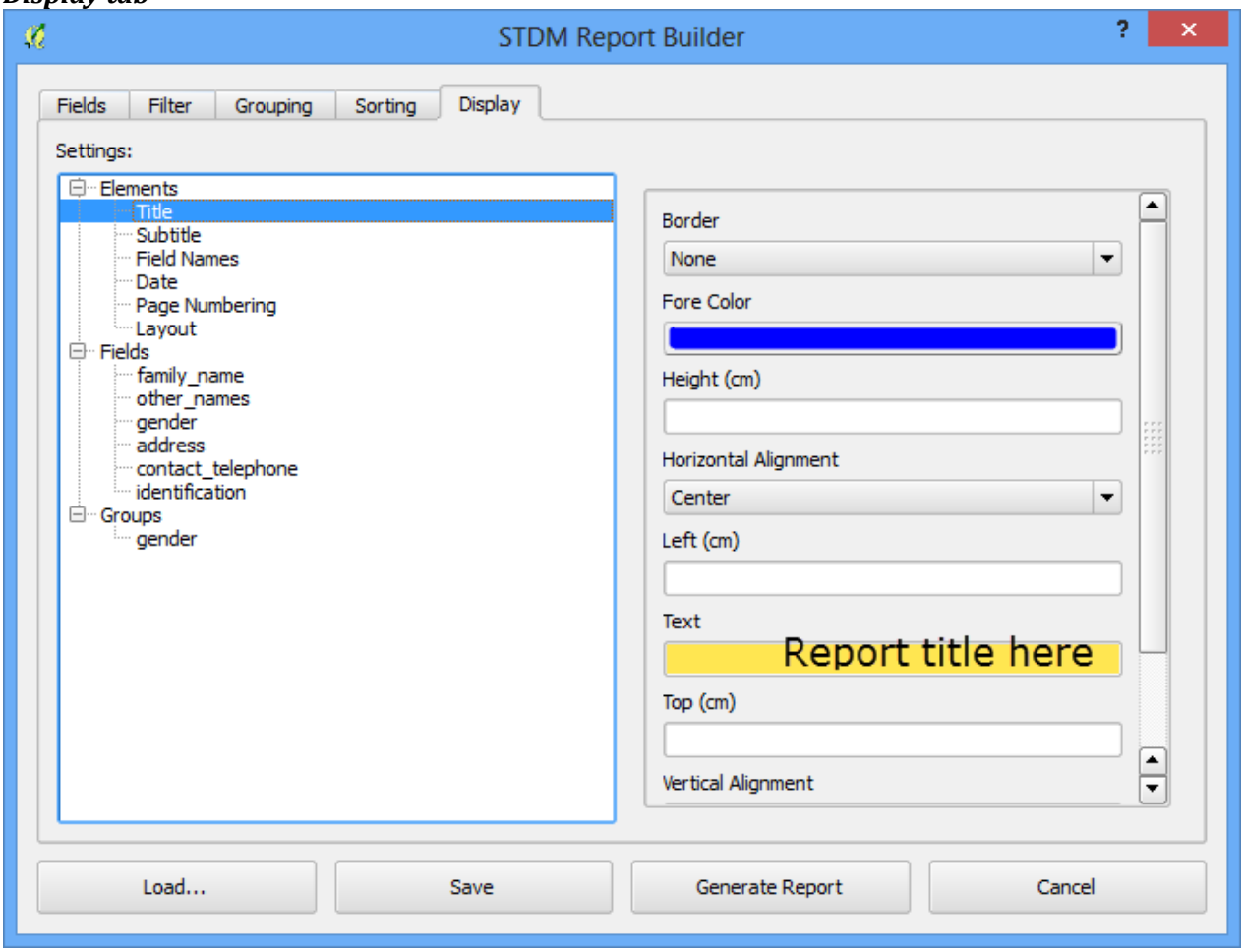
Group enables you to cluster your report in to categories based on the grouping fields.
Select accordingly.

Sorting

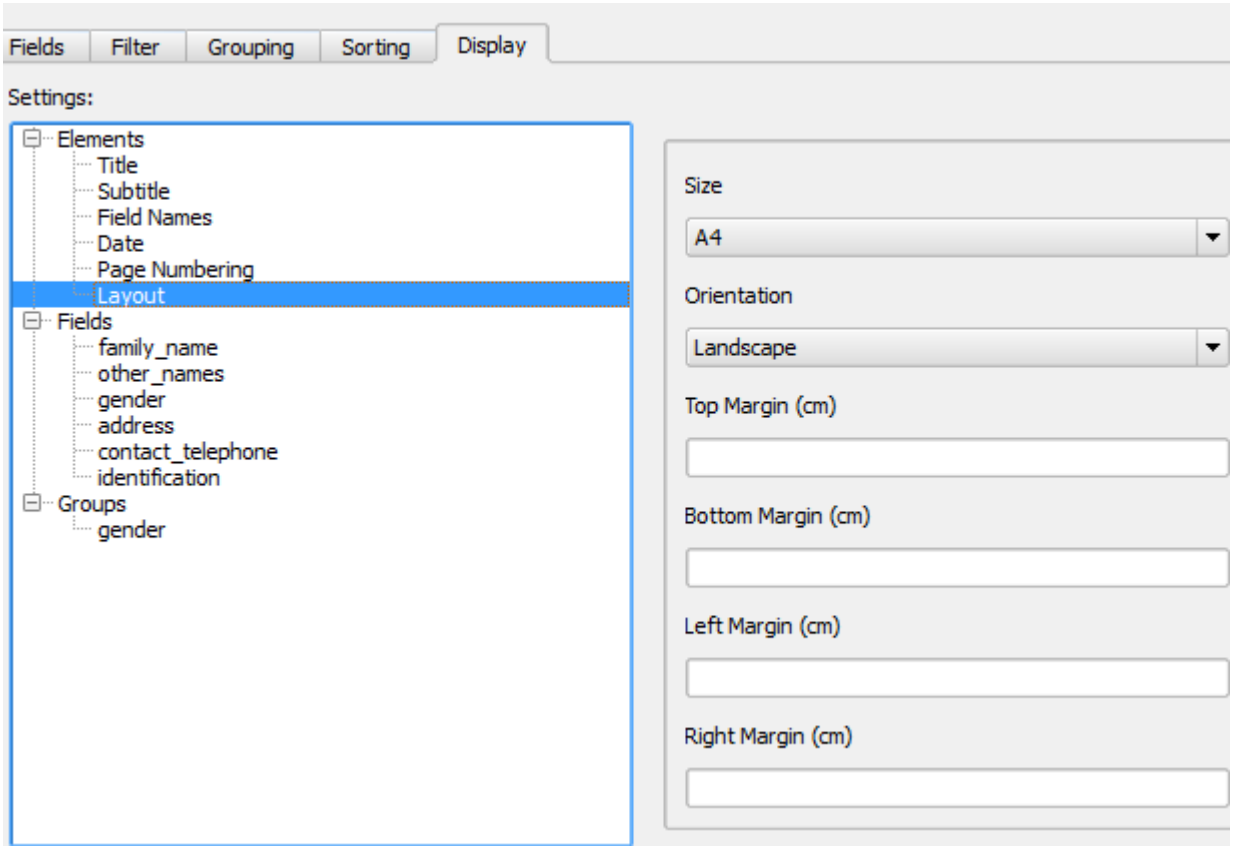


Sorting the report field will produce a report with some order based on the sorting field.
A maximum of three field can be selected to sort your report.

Display tab



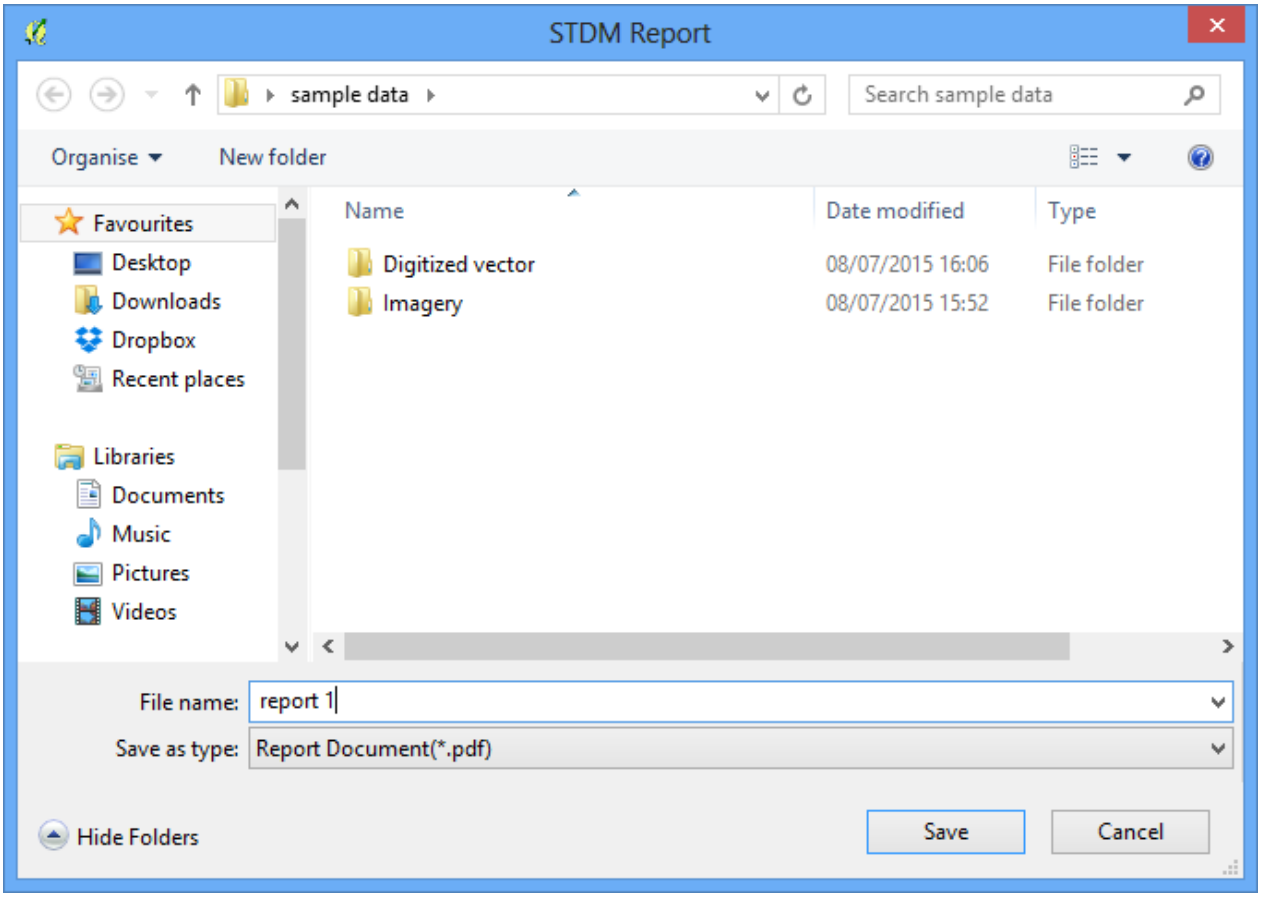
This tab enables you to give your report a title and subtitles.
You can also customize the Layout of your report by clicking on the layout field of the elements.



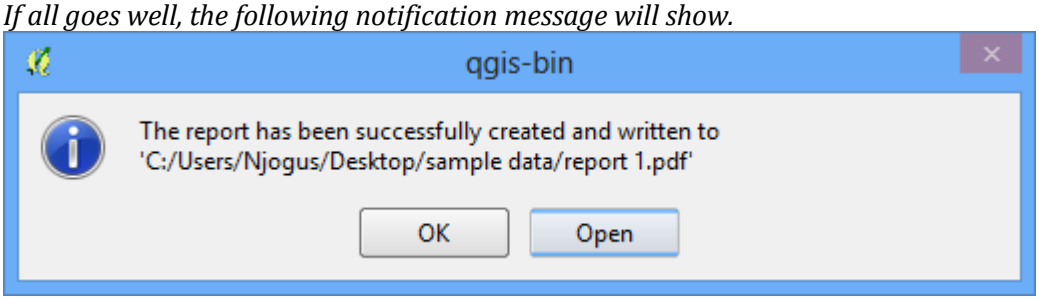
Under fields, you can change the display name of various fields to more friendly names.

Having done the customization of your report, you can save the settings so that next time you just laod the saved template to generate similar report.

Click Save to open file save dialog and provide a name for the current template being saved.
Once complete,
Click Generate Report button to save the report based on your customization to the preferred location.



If all goes well, the following notification message will show.

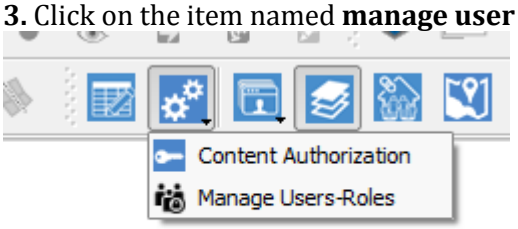


Click open to view the report.

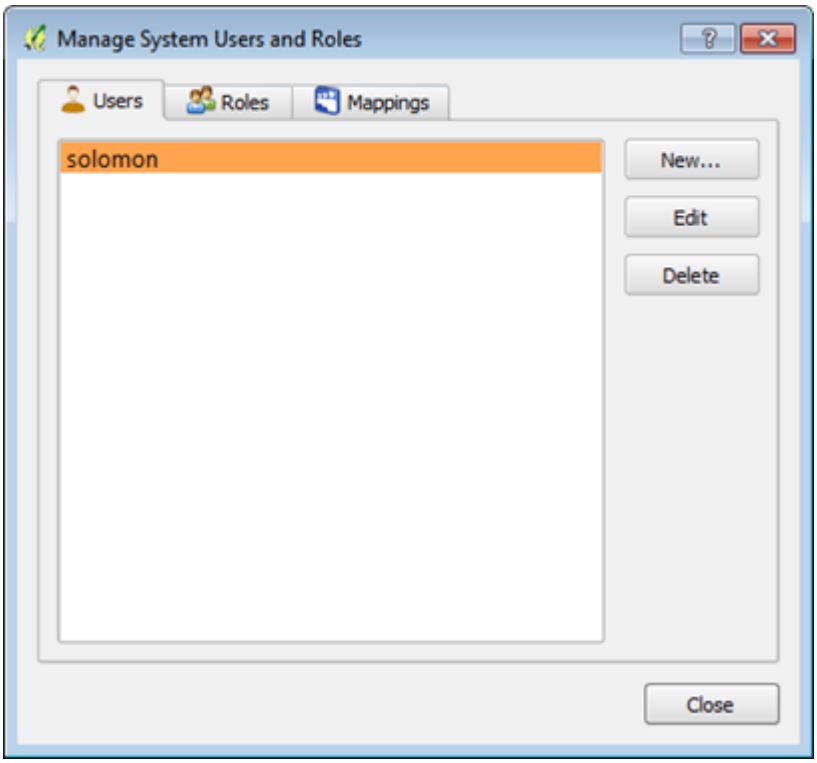
8. Managing User and Roles

8.1.User Management

To manage user roles and administrative settings,
1. Click on the admin settings button shown in a red box.
2. From the drop down contents,
3. Click on the item named **manage user roles.**

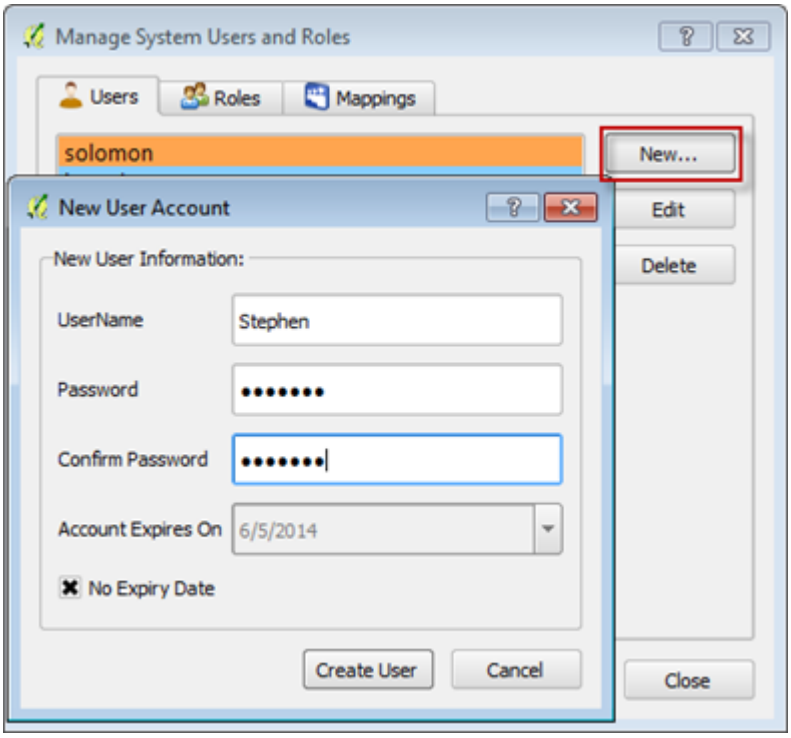


The dialog below appears and from here, user can users and their roles and group them

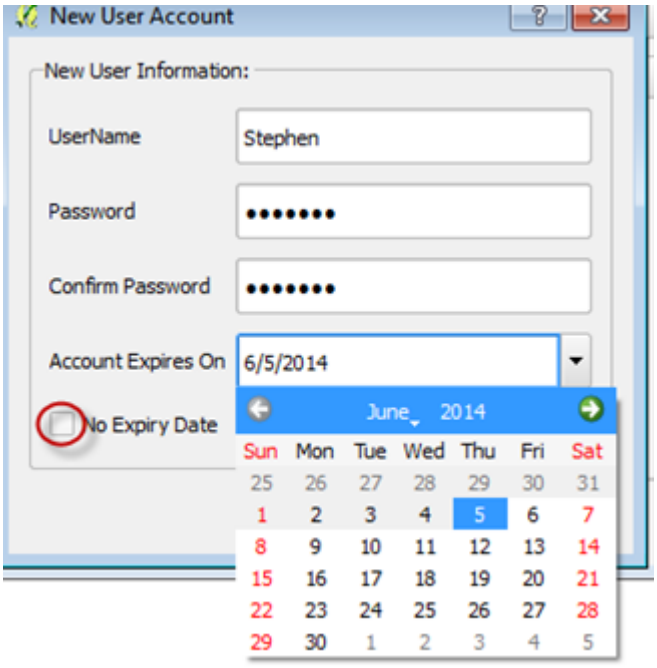


A user is person authorized to manage and manipulate content set up on the configuration wizard. The data management dialog will appear with the default user created, however more users can set up new accounts for content management.

4. To create a new user, click on the 'new' button to input the required information.

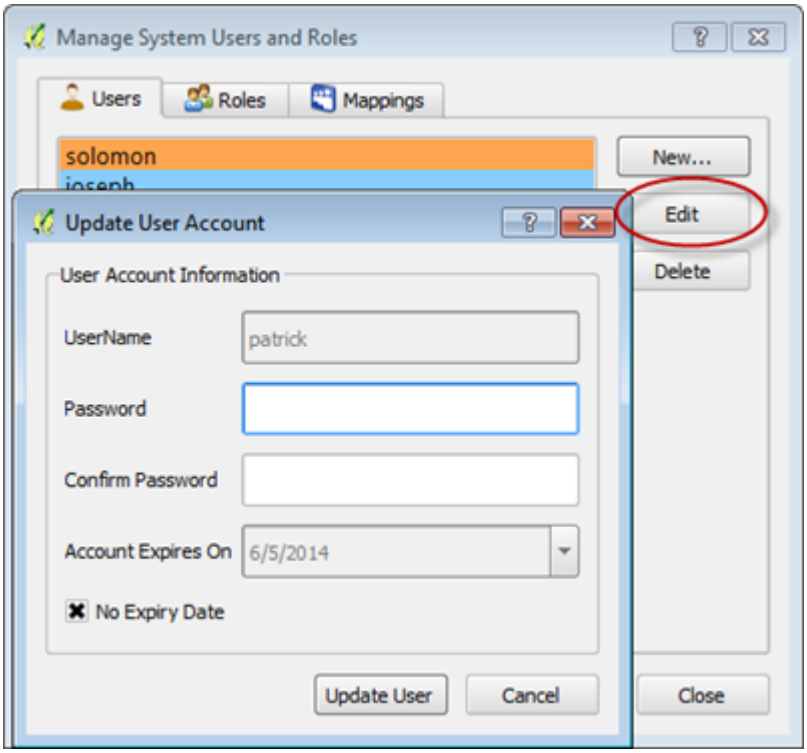


On the new user dialog, input the user name and create a password to login with.
The new user created can be given a timeline after which the user account created will expire.
By clearing the No Expiry Date check box , the expiry date set up will be deactivated.


New User Account
New User Information:
UserName
Stephen
Password
Confirm Password
Account Expires On
6/5/2014
No Expiry Date
June 2014
Sun Mon Tue Wed Thu Fri Sat
25 26 27 28 29 30 31
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 1 2 3 4 5

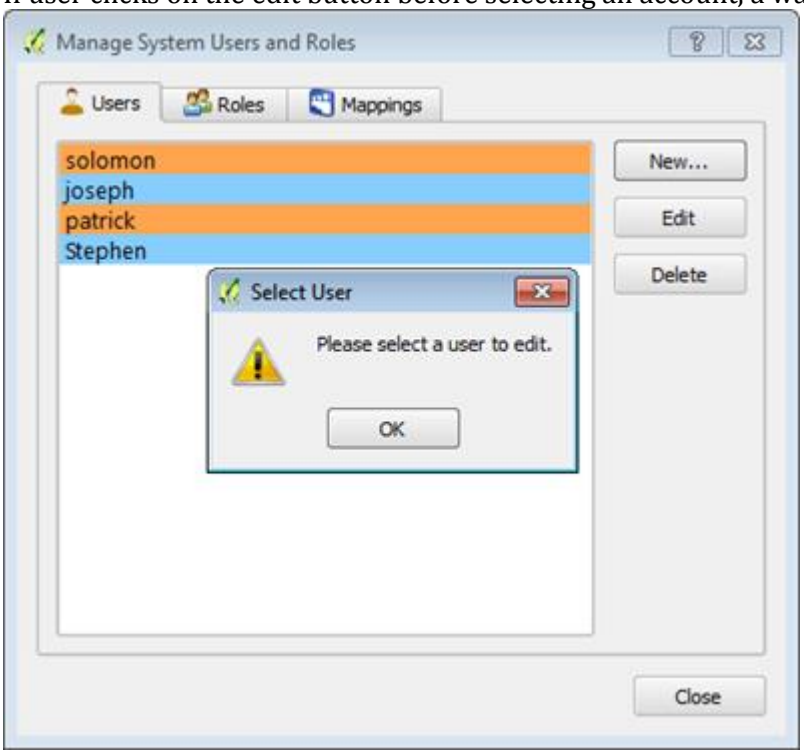
5. Click on the date button and set up an expiry date for which the new user account will be active.
6. Once done, click on the **'create user'** button on the dialog to create the new user.

Edit User.
The user management dialog also has a user editing option.
1. To edit an already created account, select the user to be edited then click on the edit button.



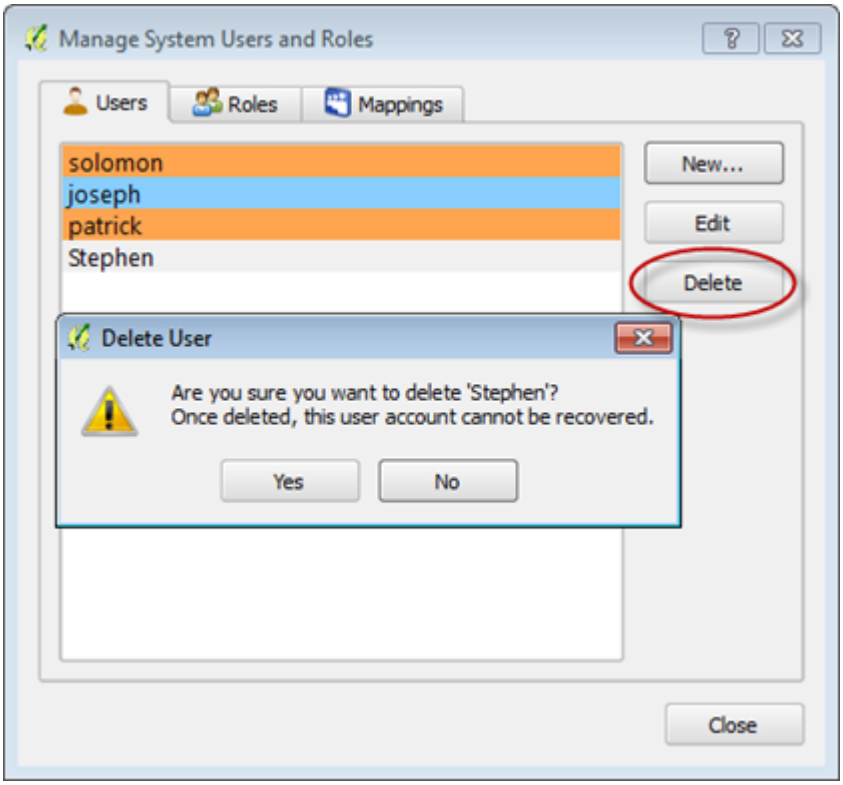
On the user update dialog, user can make any changes required.
2. Once done, click on the **update** user button to effect the changes.

If user clicks on the edit button before selecting an account, a warning dialog appears.



3. Click on **OK** button and select a user account to edit.

Delete User.
The user management dialog also has the option to delete an account

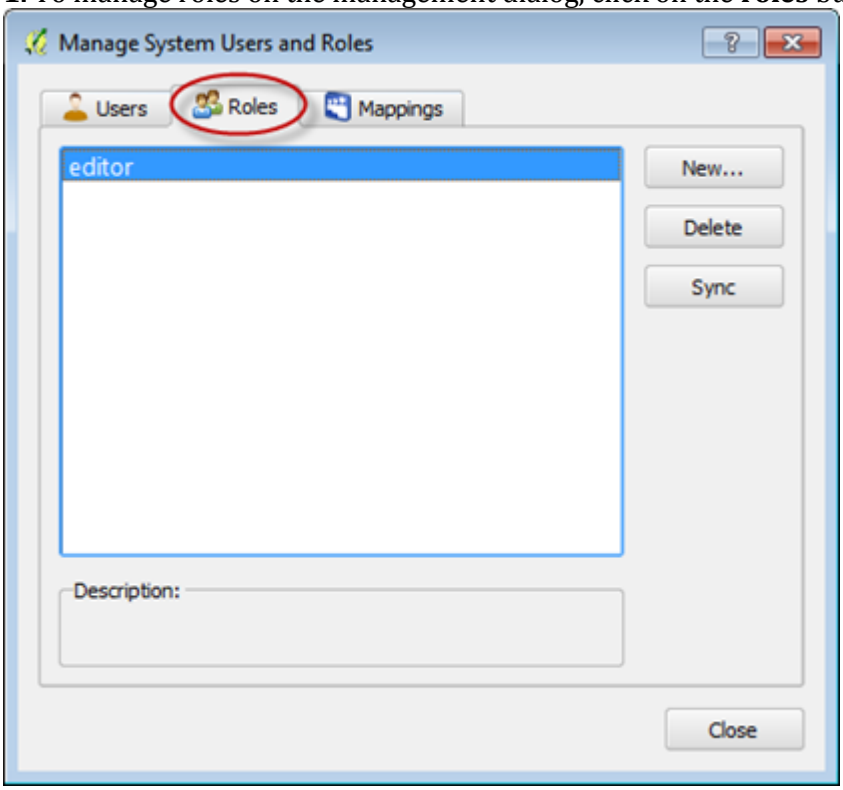


1. First select which user account to be deleted
2. Click the **delete** button.

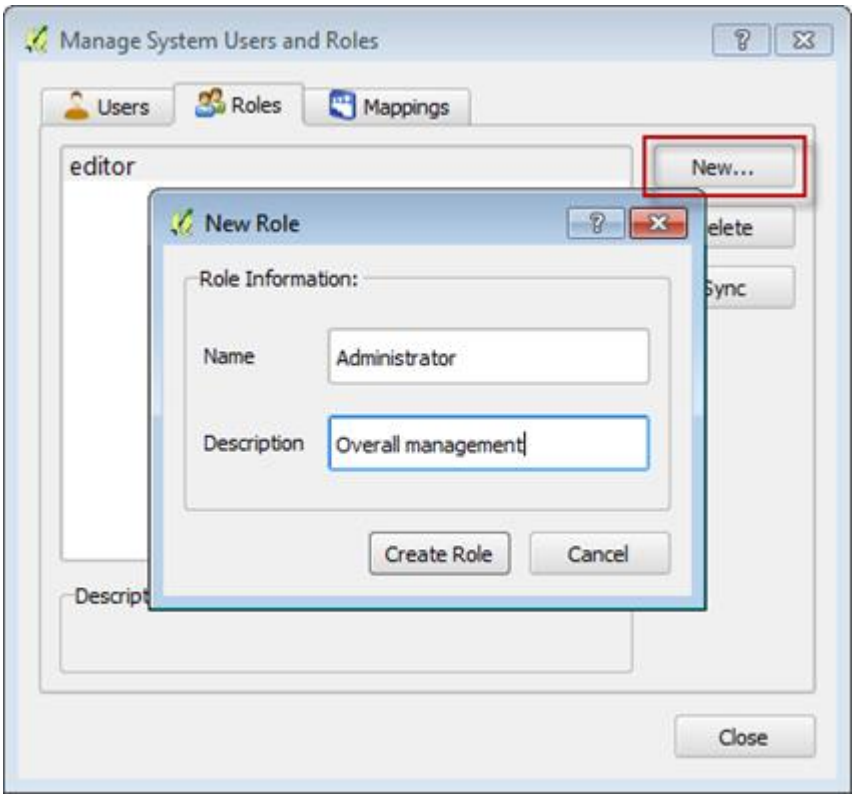
A delete user warning appears, user can confirm the delete action by clicking on the 'yes' button to proceed. This will erase the account from the user list and any roles.

8.2.Role Management

A role is an entity that can own database objects and have database privileges; a role can be considered a "user", a "group", or both depending on how it is used.
1. To manage roles on the management dialog, click on the **roles** button circled in red below.

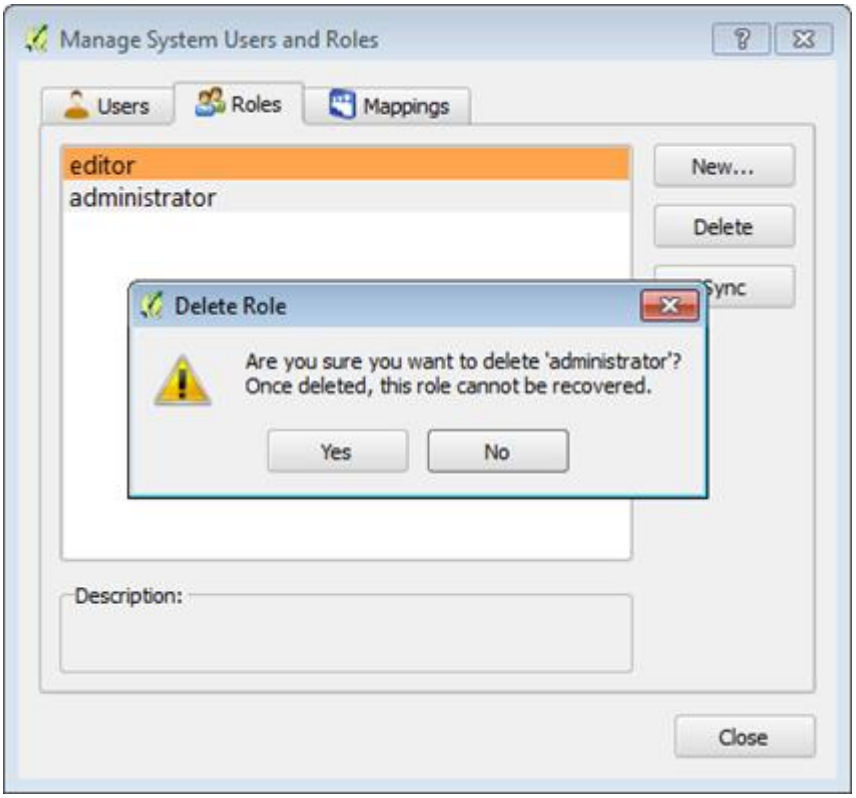


Default roles created will launch on the dialog. User has an option to create new roles for the users.
2. To set up a new role, click on the '**new**' button on the dialog.



3. On the new role dialog, input the name of the role and its description.
4. Next click on **'create Role'** for the new role to be created.

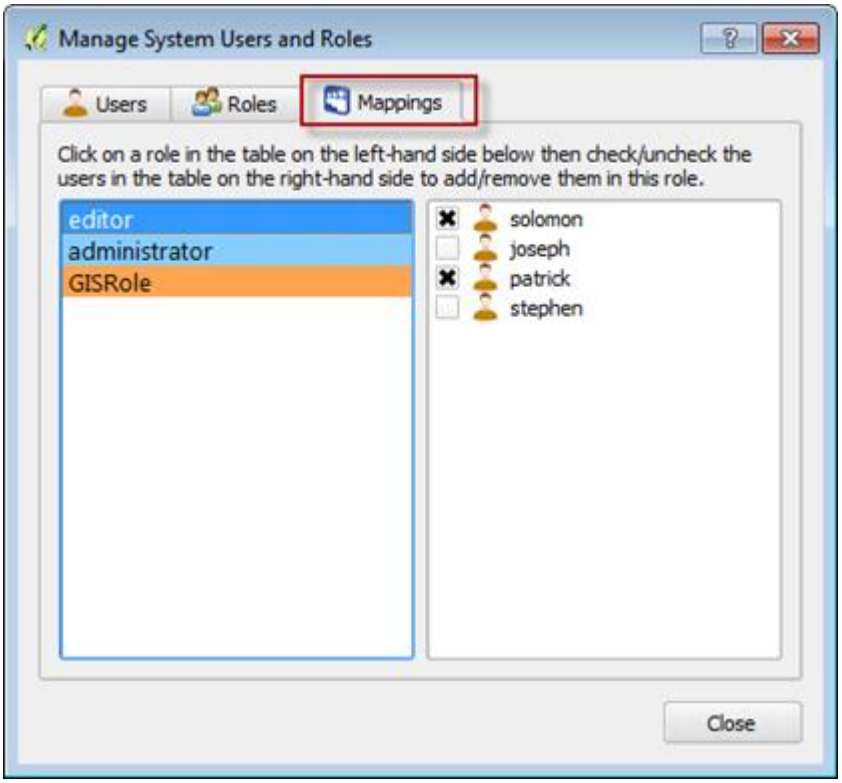
Delete Role.
The role management dialog also has a delete option to delete a created role.
1. User first **selects** a role to delete
2. Click on the **delete button** to erase the role.



A warning dialog appears and on this action and the user is required to confirm the delete action.
3. Click '**yes**' if you wish to proceed with the action.

8.3.User Mappings

It is at this point that the user authorizes who has access to the content.
Various roles created are assigned to various users for management and execution.



1. Click on the **mappings button** at the top of the management dialog for grouping.

The roles will appear on the left side of the dialog and the users will appear on the right.

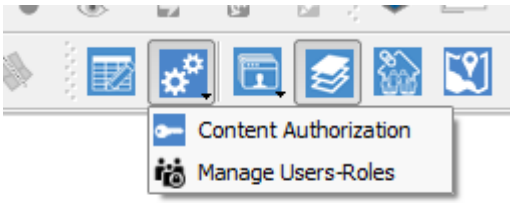
2. Select a role to assign users by clicking on it, **next check** or **uncheck** the box against a user to assign that role to that user.

Do this for all the roles so that no roles are left unassigned.

8.4.Content Authorization

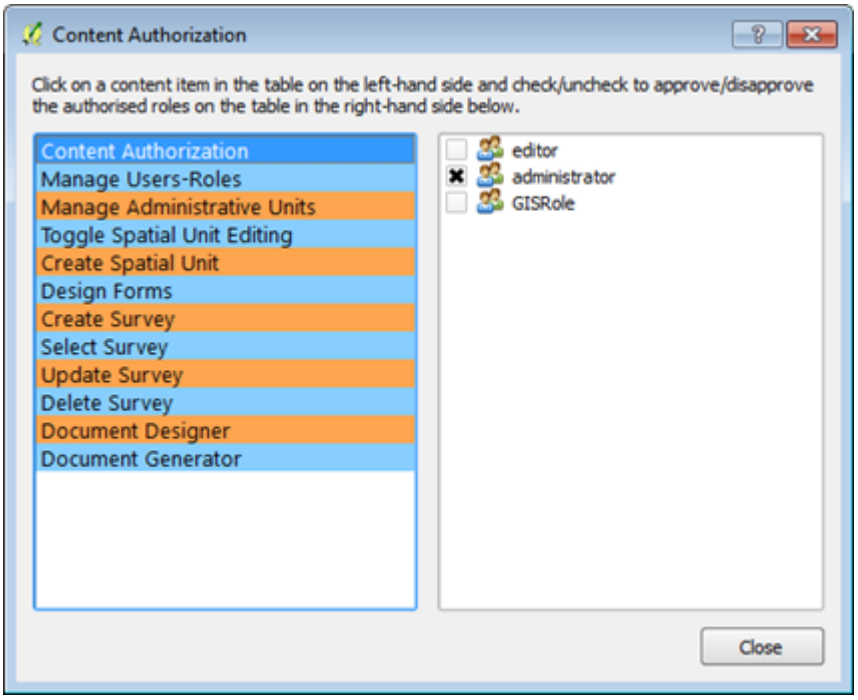
This is the point where various roles are assigned their content. Each role is given certain content to be executed by the user assigned to that role

1. To achieve content authorization, click on the **admin settings** button on the QGIS tool bar
2. Select **content authorization**.



The dialog below will appear and it is on this wizard that the user assigns the content to roles.

3. To do this, user clicks on a content item on the left side of the dialog and assigns it to a role on the right side of the dialog by checking or unchecking the box against the role depending on whether the user is approving or disproving the assignment.



A role can be assigned multiple content depending on the nature of the content and the role description. Once all content is assigned its role, click on the close button.

9. Working with Sample Data

The sample data is provided during the STDM installation. This sample data contains several forms of data;
1. Geo-referenced map data (base map/Raster data)
2. Persons data in *csv format (in excel sheets).
3. Shape files(Vector data)

To use the sample data, make sure QGIS is started and running while STDM is visible in QGIS interface tool bar.

9.1.Managing party Module

The **sample data is copied** during installation of STDM.

The person/Occupant module is used to add, update, delete and edit person information.

Person in this case Natural person is an occupant with membership to a given household.

To learn in details how to manipulate party module data, refer to party module data management

9.2.Managing Spatial Unit Module

Spatial units are areas of land (or water) where the rights and social tenure relationships apply. The spatial unit representation can cover community based administration system, or rural, or urban, or other types of land administrations like marine areas.

Managing spatial units.
Refer to spatial unit module for details

10. Annexes:

10.1. Annex 1: Working with Spatial data in QGIS

10.1.1. Working with GPS

It is advisable to use GPS device in the open field to avoid obstruction from building and trees hinders visibility of satellites when collecting data. Working with GPS in an obstructive environment reduces the accuracy of the final data. Depending on the GPS device, a GPS receiver must be locked to signals from at least 3- 4 satellites to be able to calculate the position. The higher the signal strength in terms of satellite signals the higher the accuracy/reliability.

10.1.2. Before using GPS

What is a GPS: It is a Global Positioning System (GPS), a satellite-based navigation system constituting a constellation of 24 satellites and their ground stations.

The use of GPS circles around precise positioning of objects and people including scientific studies for the purpose of obtaining useful information relative to their geographic locations.

When using GPS, the GPS device needs to communicate with the satellite at real time to give the positions.

This is why it is advisable to use GPS device in the open field to avoid obstruction from building and trees hinders visibility of satellites. This reduces the accuracy of the final data.

Depending on the GPS device, a GPS receiver must be locked to signals from at least 3- 4 satellites to be able to calculate the position. The higher the signal strength in terms of satellite signals the higher the accuracy/reliability.

What to know when using GPS in the field

While using GPS in the field it is important to take note of the following.

What affect the accuracy of the data?

- Objects such as building, mountains, tall trees e.t.c have a reflection effect to transmitted signal which may cause delay to the received signal thereby introducing errors.
- The above mentioned objects also have an obstruction effect whereby the signals may be blocked thereby reducing the number of available satellites.
- The amount of humidity or density of the clouds in the atmosphere. The signals slow down as it passes through them which affect the overall accuracy of the obtained position.

Working with Garmin GPS data

Refer to Garmin website www.garmin.com for detailed description on how to capture data using Garmini GPS.

Having collected field data using the GPS, Office work remains important to put the collected data to usable format.

Garmin by defaults stores its data in World geodetic system (WGS 84).

This becomes easy to use as it can be overlayed to Google maps and other global maps or images.

To learn how to download using STDM gps module, go to importing gps data

10.1.3. Downloading GPS data from QGIS

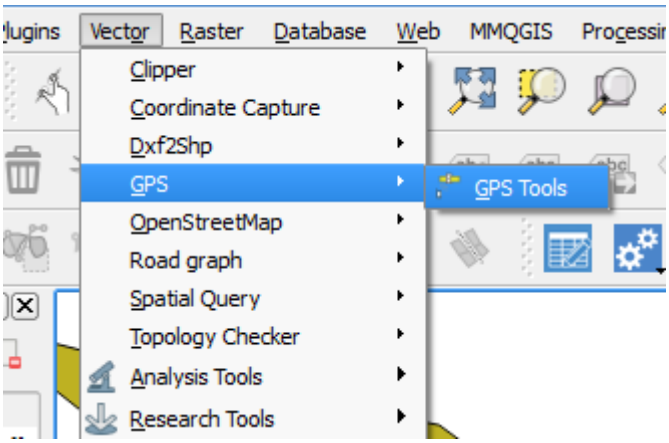
To download a GPS data from a GPS;

1. Connect the GPS to your computer (i.e. using USB cable)

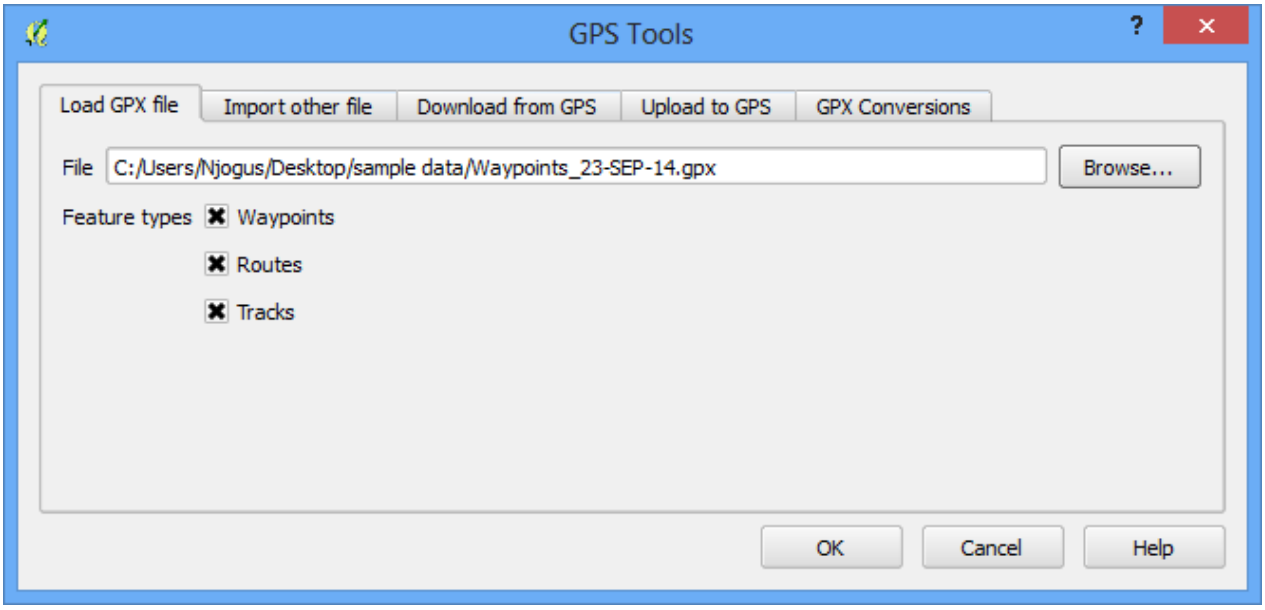
2. Ensure the device is visible to your computer

3. Start QGIS normally

4. Launch the GPS **plug-in** from QGIS, Vector**>Gps>Gps Tools**

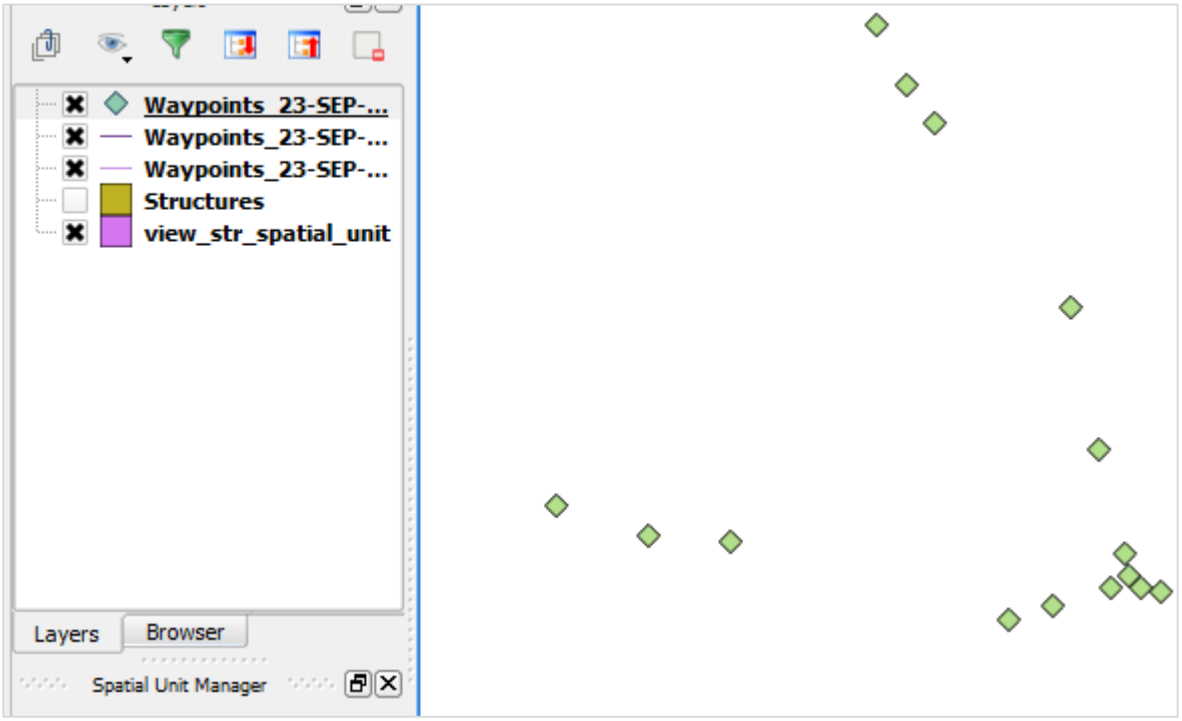


A new dialog box appears that allows you to browse to the location of field data from the Gps.



5. Select on first tab ***load GPX file***

6. Browse to the location of GPS data and Click **OK**.

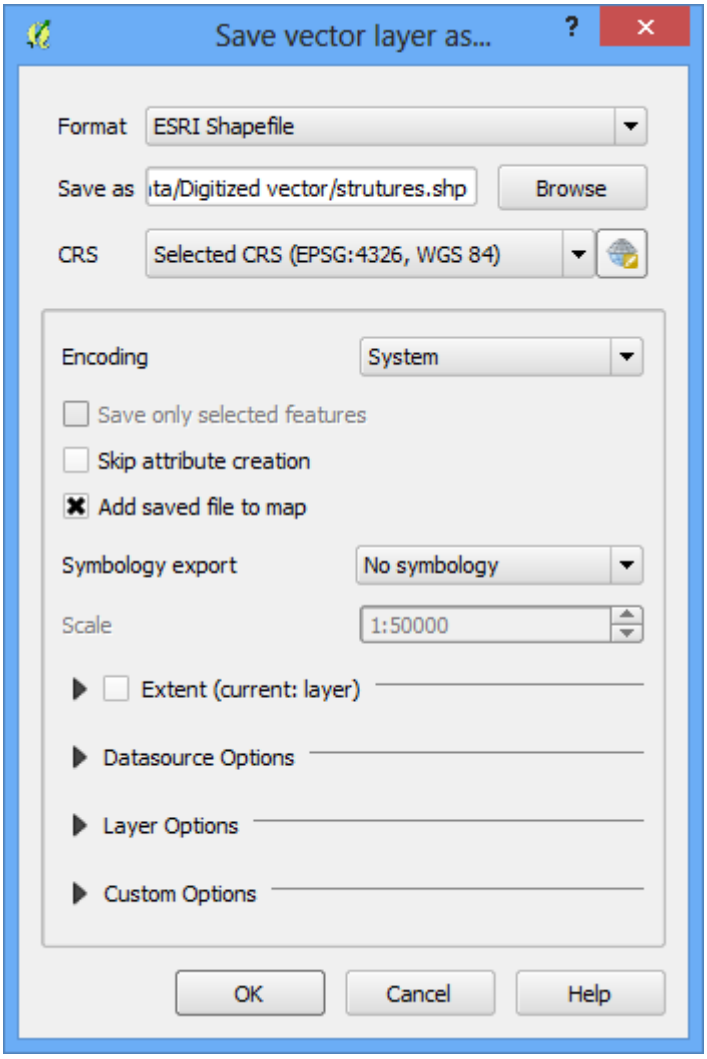


The loaded data should appear as a scatter of point depending on what was captured if all went okay.

7. Right click on the way point (probably it is the first on the list in the table of content).
8. Select **Save as** in the shortcut panel and enter the details as required.
9. Specify the format, coordinate system for the new layer otherwise the source layer CRS original will be used.

Note: *For above data, the coordinate system used was:* ***WGS 84***
For the format, ***ESRI Shape file*** *format is preferred because it is supported by many GIS software.*

Do not check the ***Skip attribute creation*** *check box.*
10. Provide the output path.
11. Click to check "Add saved file to map
12. Click **OK**.



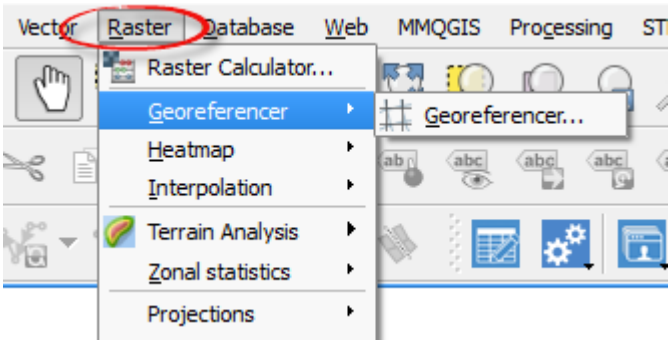
A new layer will be created and added to the QGIS map canvas.

10.1.4. Geo-referencing

Geo-referencing is process of introducing world real coordinates on to a raw image so that the final product is a spatially enabled map that can give location of features in the two dimension space.

Steps:

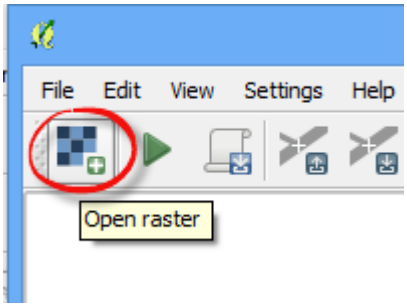
1. Click on the **raster menu** on the QGIS interface.



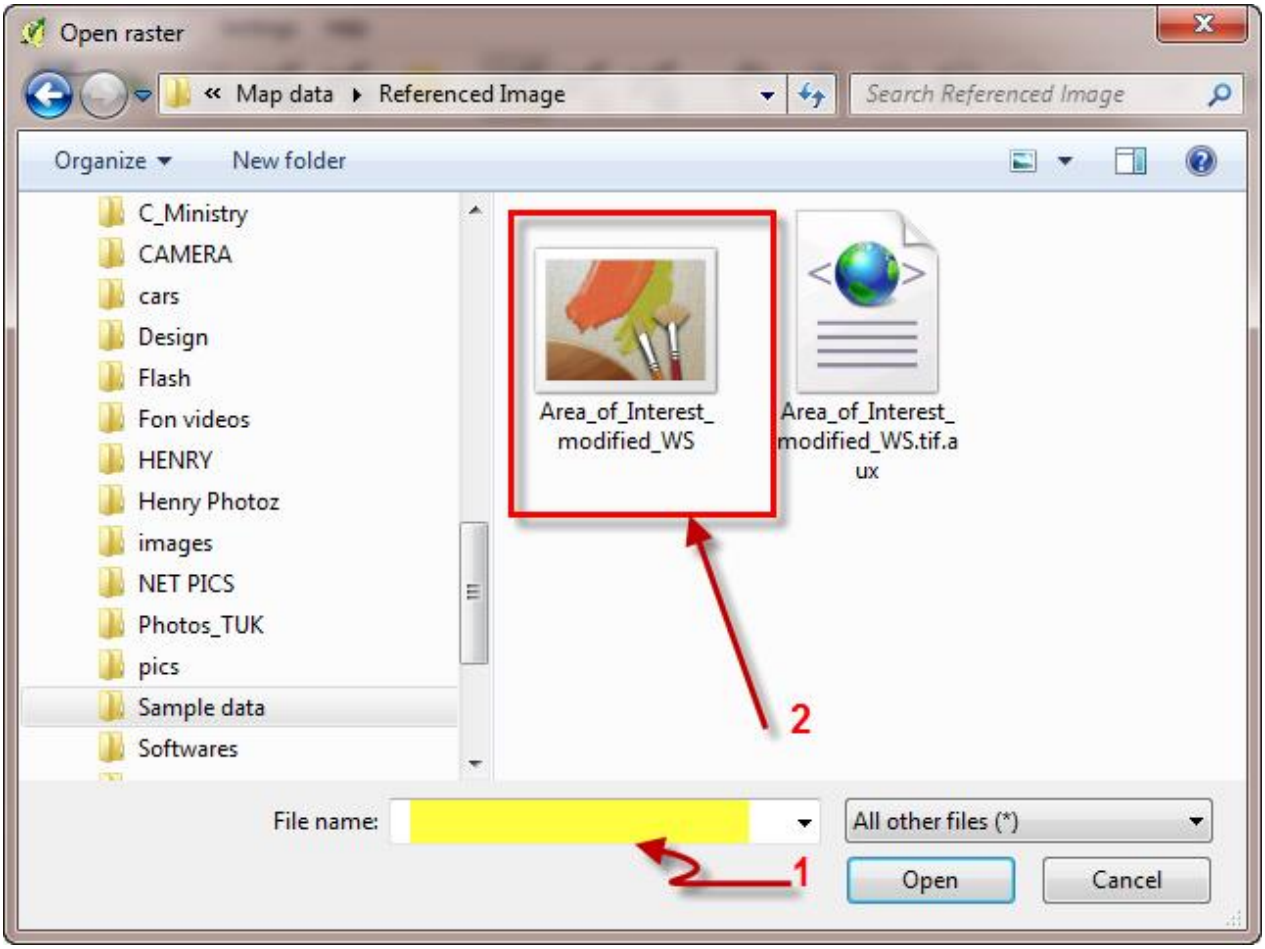
2. On the drop down content click **georeferencer** > **georeferencer.** Dialog box will appear.

A pop up will appear allowing you to load a raster image

3. Click as below to **load** the image



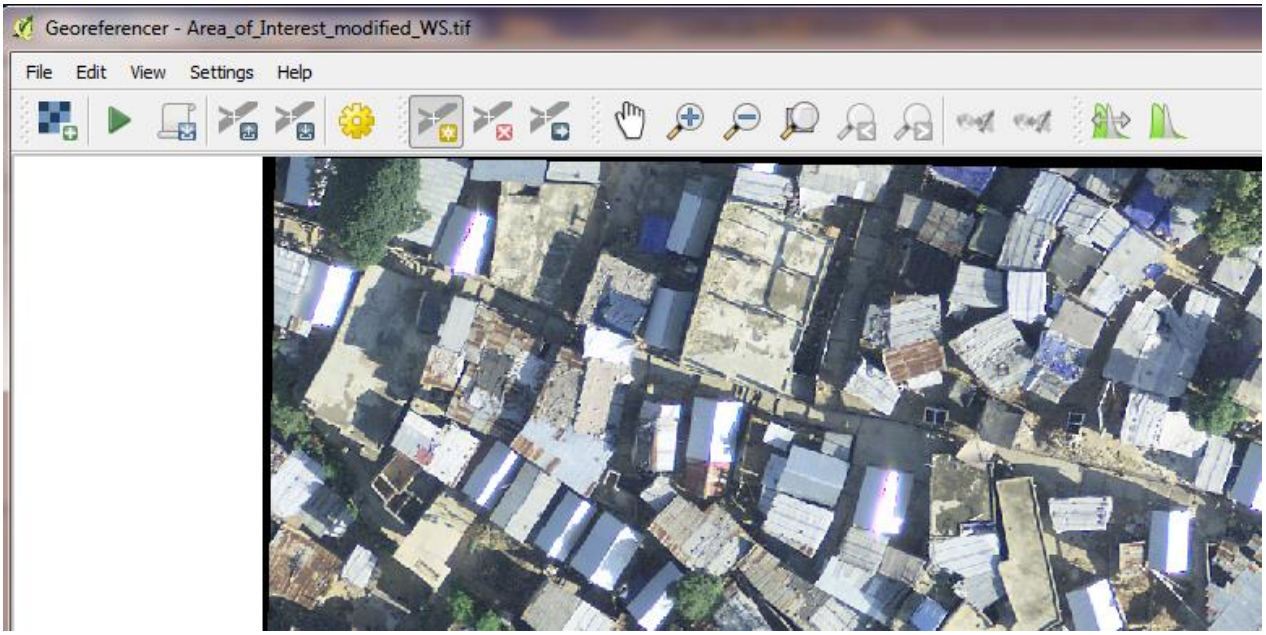
This allows you to browse to where the map is



4. Select the File name you wish to georeference (Many Image formats are supported)

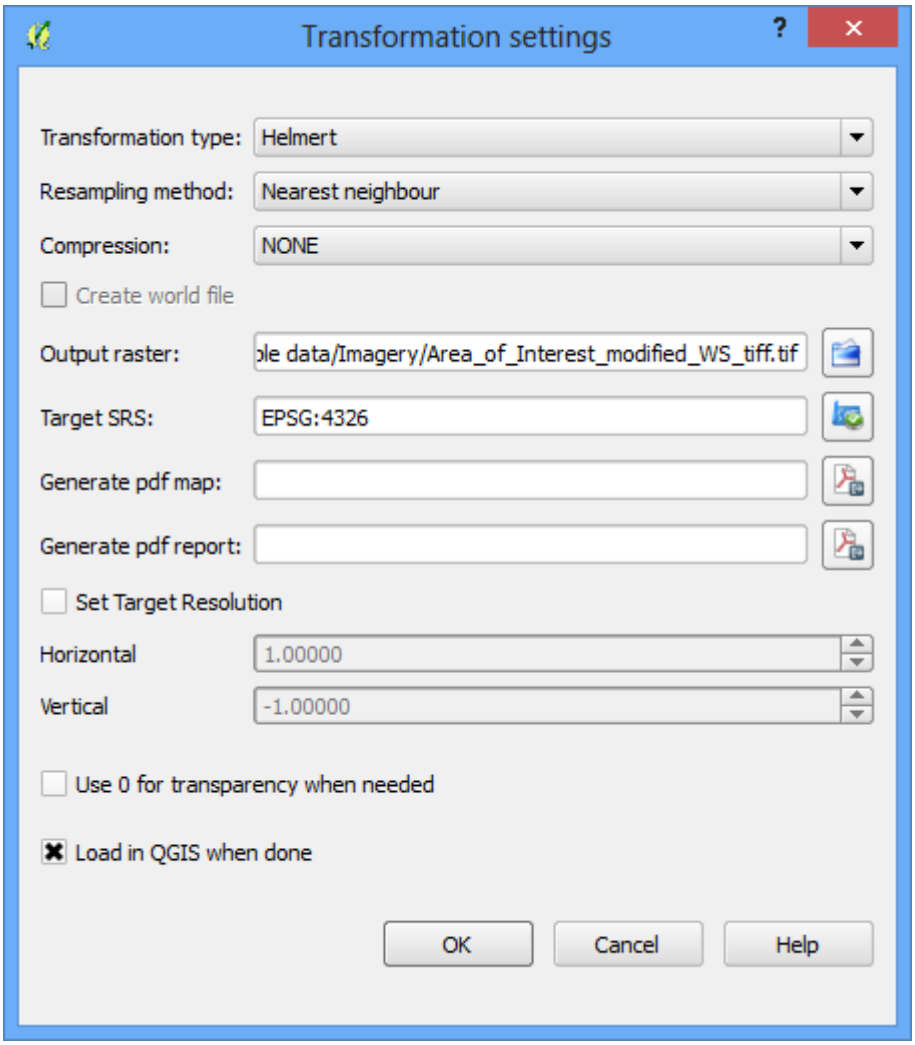
5. Click **Open** to load the map.

Raster Data is loaded on the QGIS interface.



6. To set properties of geo-referencing> Click the icon (transformation settings).

A dialog box pops up so that you can set the coordinate reference system.



Identify at least two points with well-known points on the map that you will use to geo-reference with.

Assign at least two ground control points (GCPs) to enable the geo-referencing.

Note: Set the Transformation type re sampling method as nearest neighborhood so as not to change the color code of pixel.

In the output raster you give the geo-referenced image a name. Then select the reference system to be used in Target SRS.

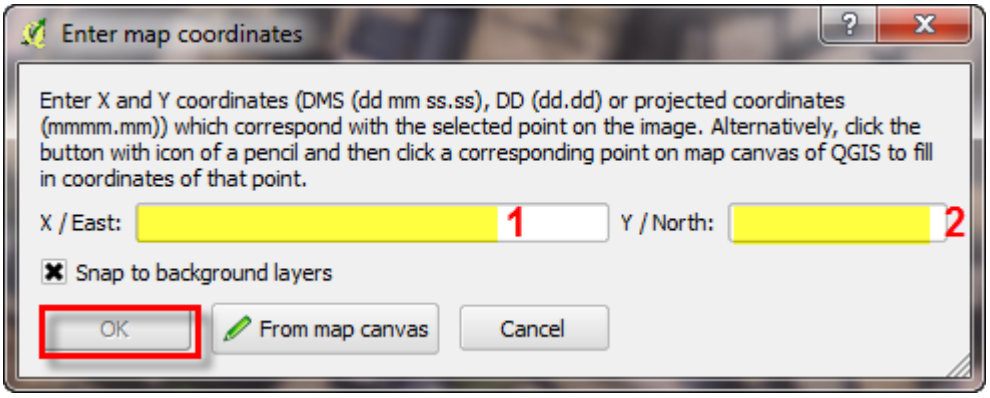
7. Check the "Load in QGIS when done"

8. Select then click **OK**.

9. With identified points on the map and with their coordinated, Use the Add point button to add control points on the map.

Once you click at any point on the map, the pop below shows up allowing you to enter the coordinates of that point.

10. *Do this for the other points and then click* ***OK*** *for each pair of point entered.*


Enter map coordinates
Enter X and Y coordinates (DMS (dd mm ss.ss), DD (dd.dd) or projected coordinates (mmmm.mm)) which correspond with the selected point on the image. Alternatively, click the button with icon of a pencil and then click a corresponding point on map canvas of QGIS to fill in coordinates of that point.
X / East:
1
Y / North:
2
Snap to background layers
OK
From map canvas
Cancel

11. Click the icon (Run) to have all the point loaded.
12. Then **close** the georeferencer dialog box.

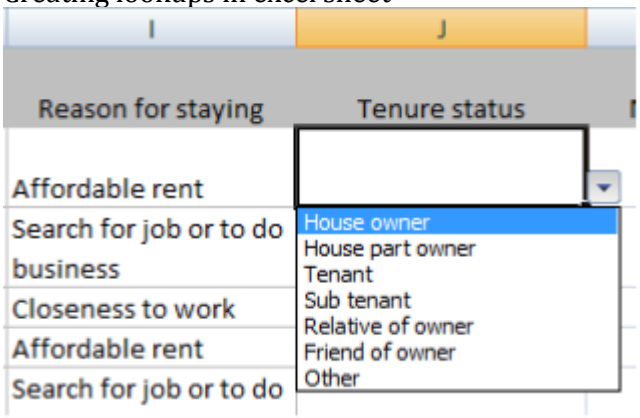
13. Load the geo-referenced image using the icon (open raster) in the QGIS interface view for viewing the geo-referenced image.

NOTE: *This is just one of way of entering the coordinates during the geo-referencing.*

10.2. Annex 2: Working with spreadsheet

10.2.1. Formatting spreadsheet data

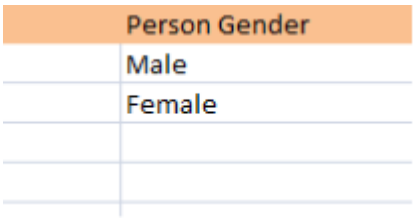
Creating lookups in excel sheet



Drop-down list makes data entry easier in Excel and restrict data recording to that in the list. This eliminates typing error as well as saving on time. A drop-down list can be in column or row format.

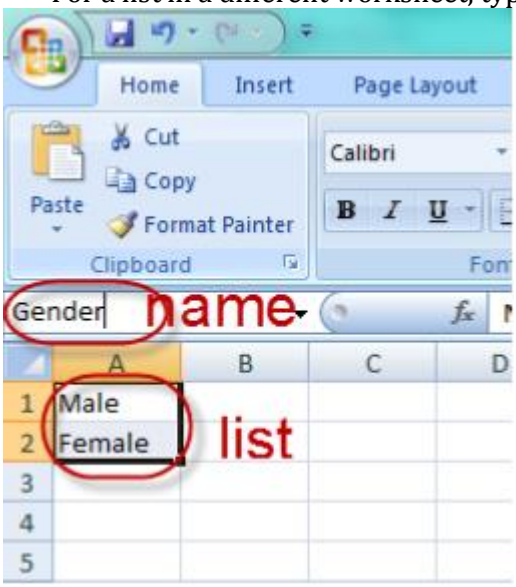
Steps to follow when creating a list in Excel column:

- Define the entries for the list in the order you want it to appear e.g. [Male, Female}
- Type the list in the given cells without having a blank cell in-between.



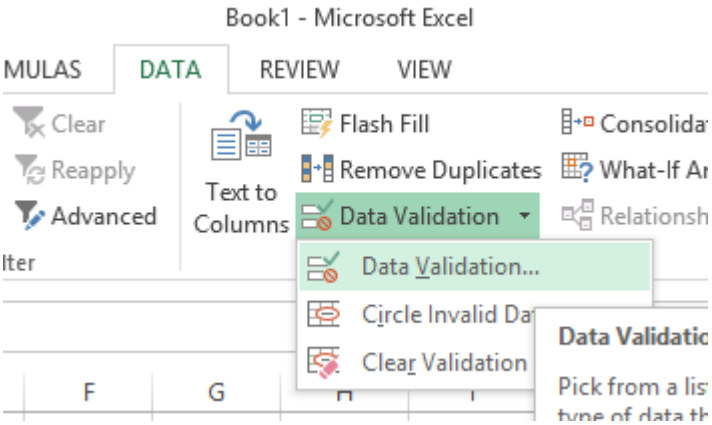
The list may be in the same or different worksheet.

- For a list in a different worksheet, type the **list** on that worksheet and define a **name** for it.

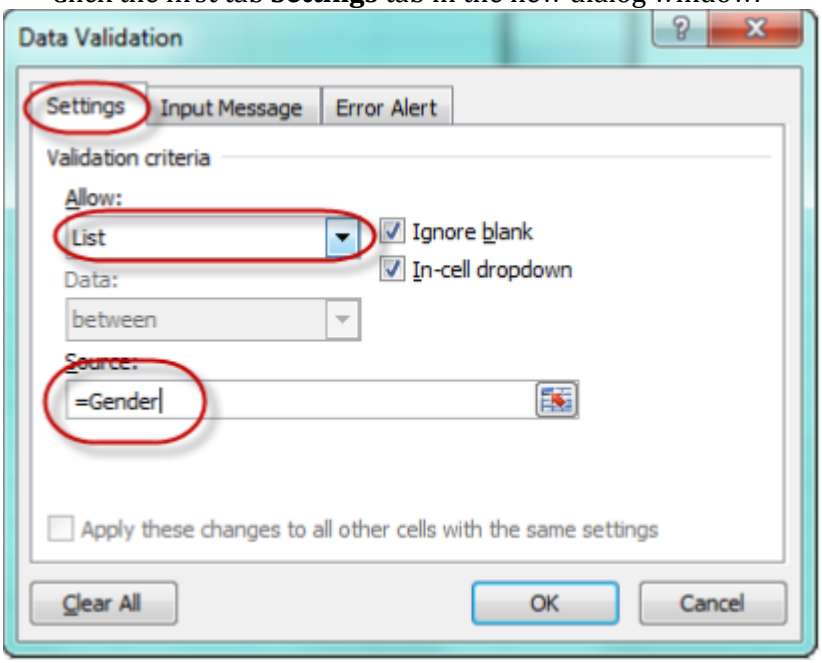


Adding the list to a cell

- On the working sheet, select the cell you want.
- On the **Data** menu, click **Data Validation.**



- Click the first tab **Settings** tab in the new dialog window.



- In the **Allow** drop-down box select **List**
- Specify the Source of the list by;
- If the list is in the current worksheet, enter a reference (range) to your list in the S**ource** box

  If the list is in another worksheet, enter the name that you defined for the list in the **Source** box.
- In both cases, make sure that the reference or name is preceded by an equal sign (=).
- To specify whether the cell can be left blank, select or clear the **Ignore blank** check box

Removing drop-down list

- Select the cell within the list
- Click the **Data** menu and then click **Data Validation**.
- In the **Data validation** dialog box that pops up
- Click the **Setting** tab and then click **Clear All** button at the bottom of the dialog.

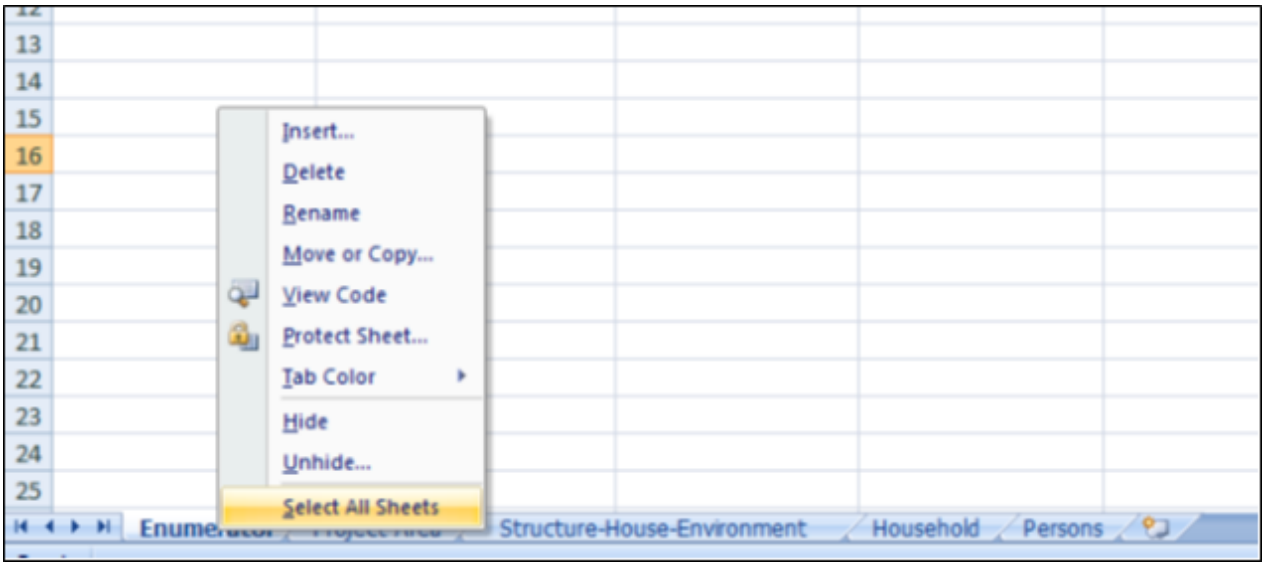
For more help visit:
http://www.office.microsoft.com/en-us/excel-help/create-or-remove-a-drop-down-list-HP005202215.aspx

Adjusting sheet columns and rows to uniform width

This can be done either in Microsoft excel or Open Office spreadsheet.
This guide will use the Microsoft excel.

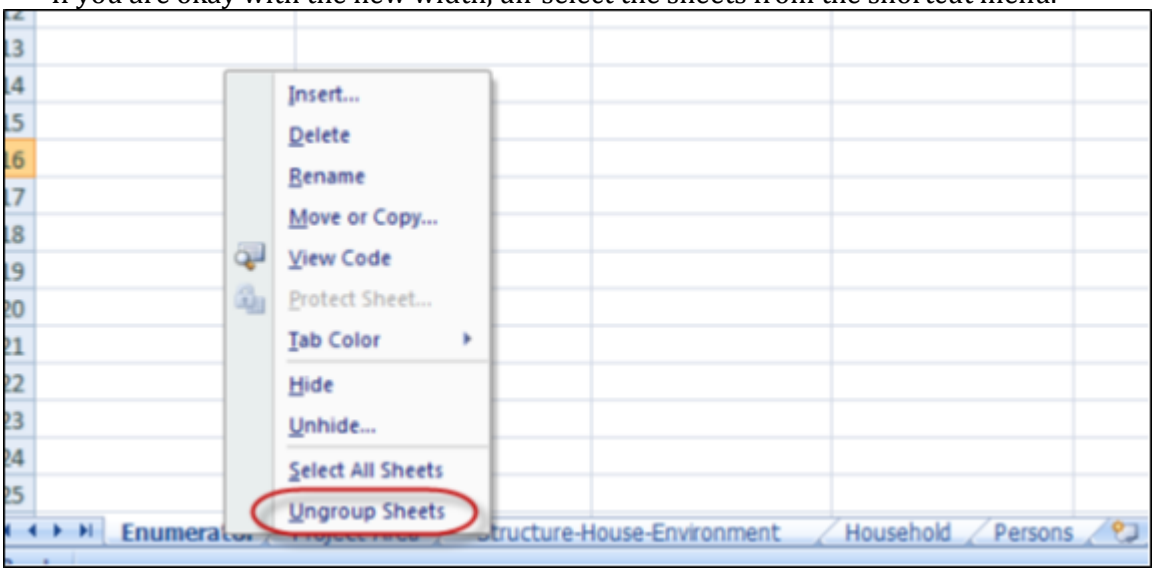
- Open the excel workbook if it's not opened.
- Select all cells in one sheet. You can use the shortcut **(CTRL+A)**.

- Right click on the **current sheet** tab in the workbook and on the shortcut panel click ***Select All Sheets***.



This will ensure that any formatting you do on the current sheet will apply to all other sheet in the workbook.

- Go to the **home** tab of the excel document in the **Cells** group, click **Format**.
- Under **Cell Size**, click **Column Width**.
- In the **Column width** box, type the value that you want.
- You will find that the column for all the sheet have now been adjusted to the new width.
- If you are okay with the new width, un-select the sheets from the shortcut menu.



For more information go to:

- ❖ http://www.spreadsheets.about.com/od/excelformatting/How_to_Use_Excel_Formatting_Features_Format_Excel_Spreadsheets.htm
- ❖ http://www.office.microsoft.com/en-us/excel-help/change-the-column-width-and-row-height-HP001216383.aspx.

Formatting cell values (Cleaning the data)I.e. Capitalizing persons names
The example uses random cells numbers.
To extract and capitalize the first name from the name collection, use the following function:

=IFERROR (PROPER (LEFT (A2, (FIND (" ", TRIM (A2))-1))),"")

To extract and capitalize the last name from the name collection, use the following function:

=IFERROR (PROPER (RIGHT (A2, (LEN (TRIM (A2))-FIND (" ", TRIM (A2))))),"")

To extract and capitalize sex information if defined as MALE, FEMALE, M or F in the Sex collection, uses the following function:

=IF(D2="MALE",PROPER(D2),IF(D2="M","Male",IF(D2="F","Female",IF(D2="FEMALE",PROPER (D2)))))

To check if an integer cell is defined or set as a blank text if specified as zero:
=IF (F2>0, F2,"")
To set an option cell as a blank text it's specified as NA:
=IF (W2="NA","", PROPER (W2))

For more help visit
http://www.office.microsoft.com/en-us/excel-help/

10.3. Annex 3: Additional settings

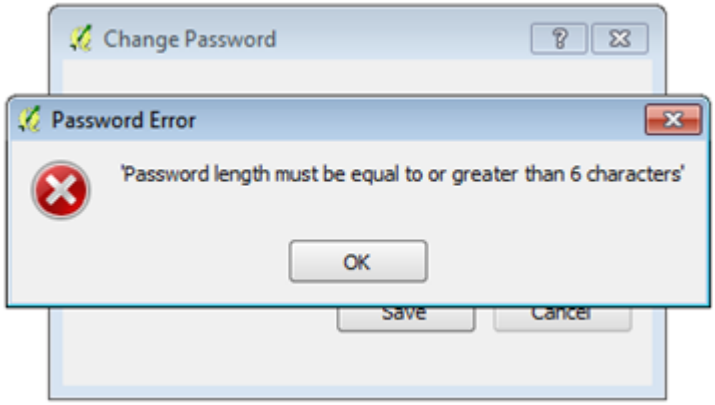
10.3.1. Changing password

For this command to work you must be logged in to STDM.

1. To change the login password, click on the change password button . This will prompt a change password dialog.
The change password button is only available once a user is logged in.

2. The user is required to input a new password and its confirmation. Then click on the **save** button for the new password to take effect.

Note: This is the password to be used on the next login.
If the login password created has characters fewer than 6, the message bellow will appear.



This is due to the password strength. The more characters on a password the stronger it is to avoid being compromised.

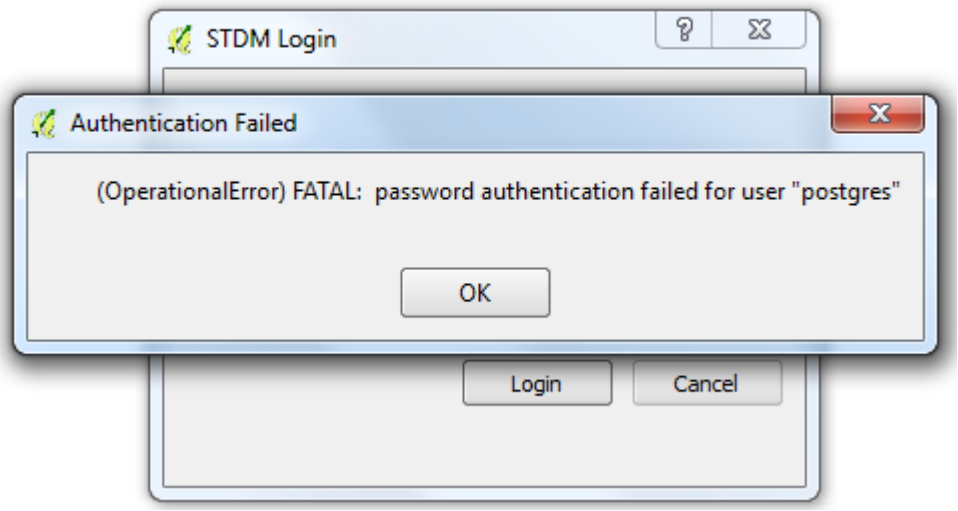
4. Click the **OK** button and set a new password that has 6 or more characters.
5.

10.3.2. Reset Server settings

Note: *This features allows the user to change the server configuration parameters when login has failed.*

This feature is also important where the user is working with multiple database. The user needs to pop up this dialog and change the database name and new database will be picked up. Remember for new database, Design Forms feature need to be configured.

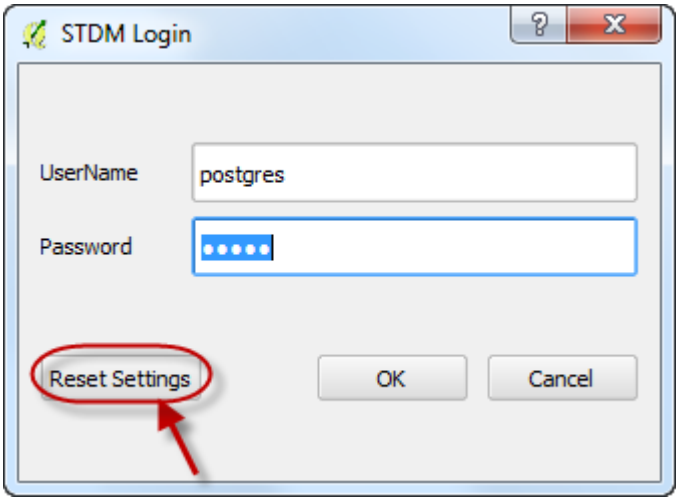
Changing the connections parameters



This step is necessary when the password or user name authentication has failed. It also means either of the provided settings parameters are incorrect.

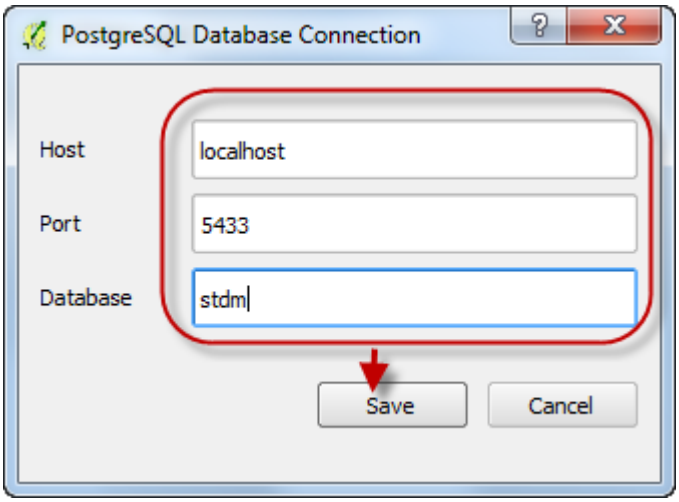
Also note that it only available when you are logging in as a super administrator.

1. Click **OK to dismiss the error message.**



Reset button is activated.

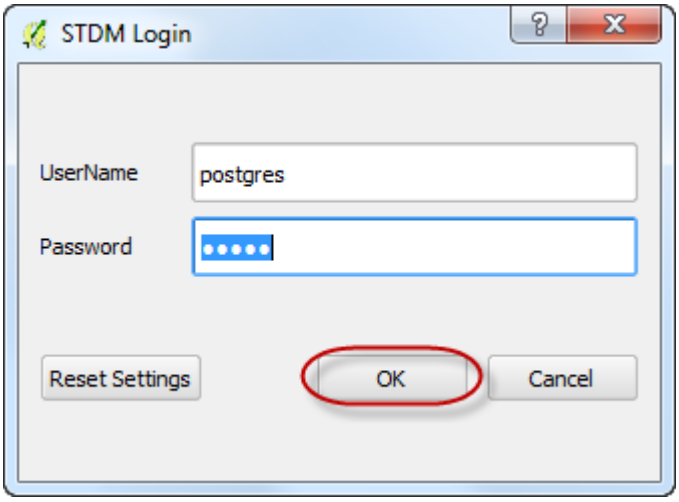
2. Click **Reset Settings** button to load settings editor dialog.



Make required changes if provided setting are incorrect.

3. **Click Save** button to save new parameters.

The login dialog will persist. Enter the correct login credentials and click **OK** to proceed.



10.3.3. Logging out of STDM

To log out of the QGIS wizard, you must be logged in. Click the logout button . This immediately logs you out of the STDM system and the STDM command buttons disappears.

From here the log in button will be available for a later login.